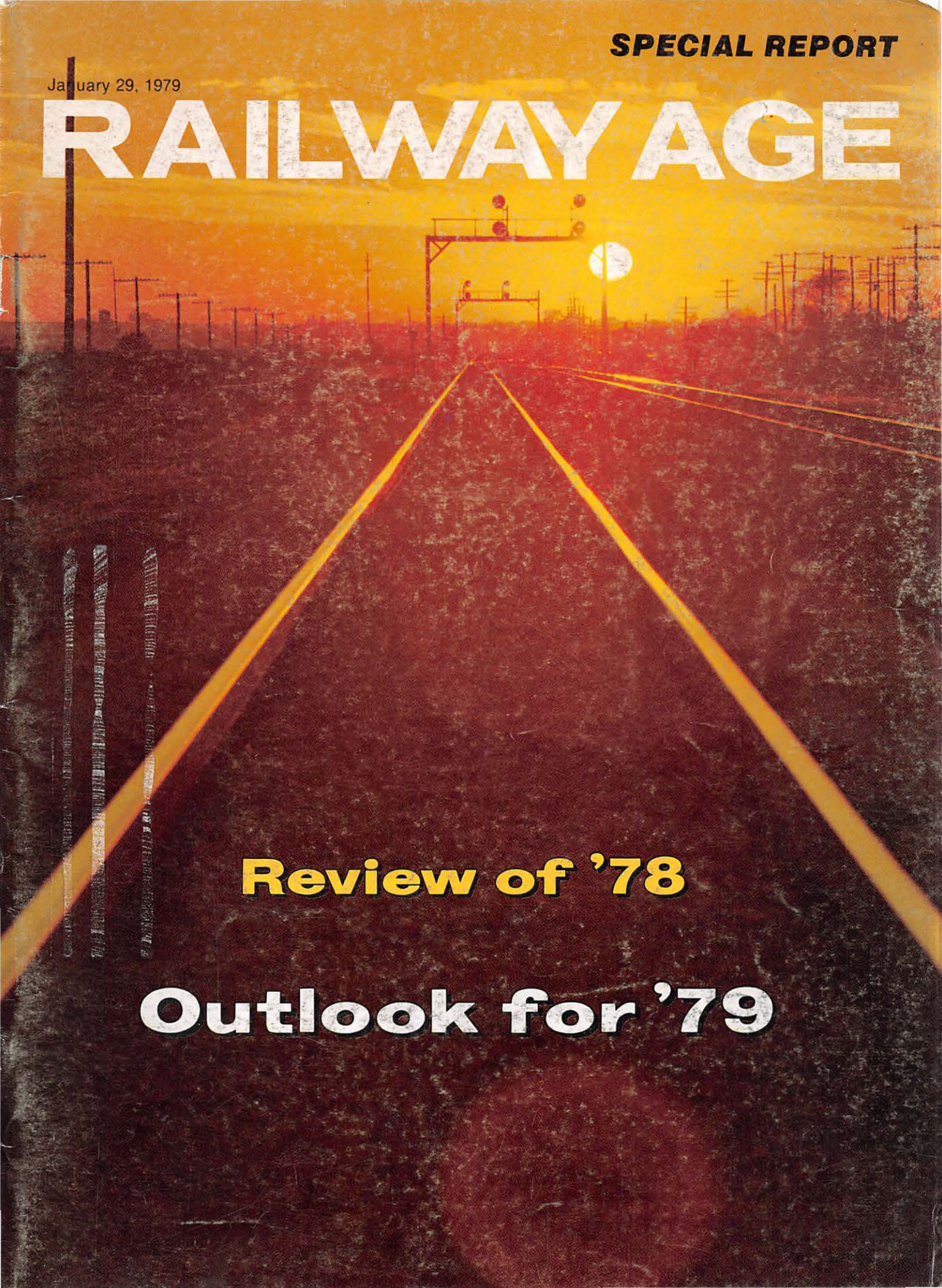
SPECIAL REPORT

January 29, 1979

RAILWAY AGE



Review of '78

Outlook for '79

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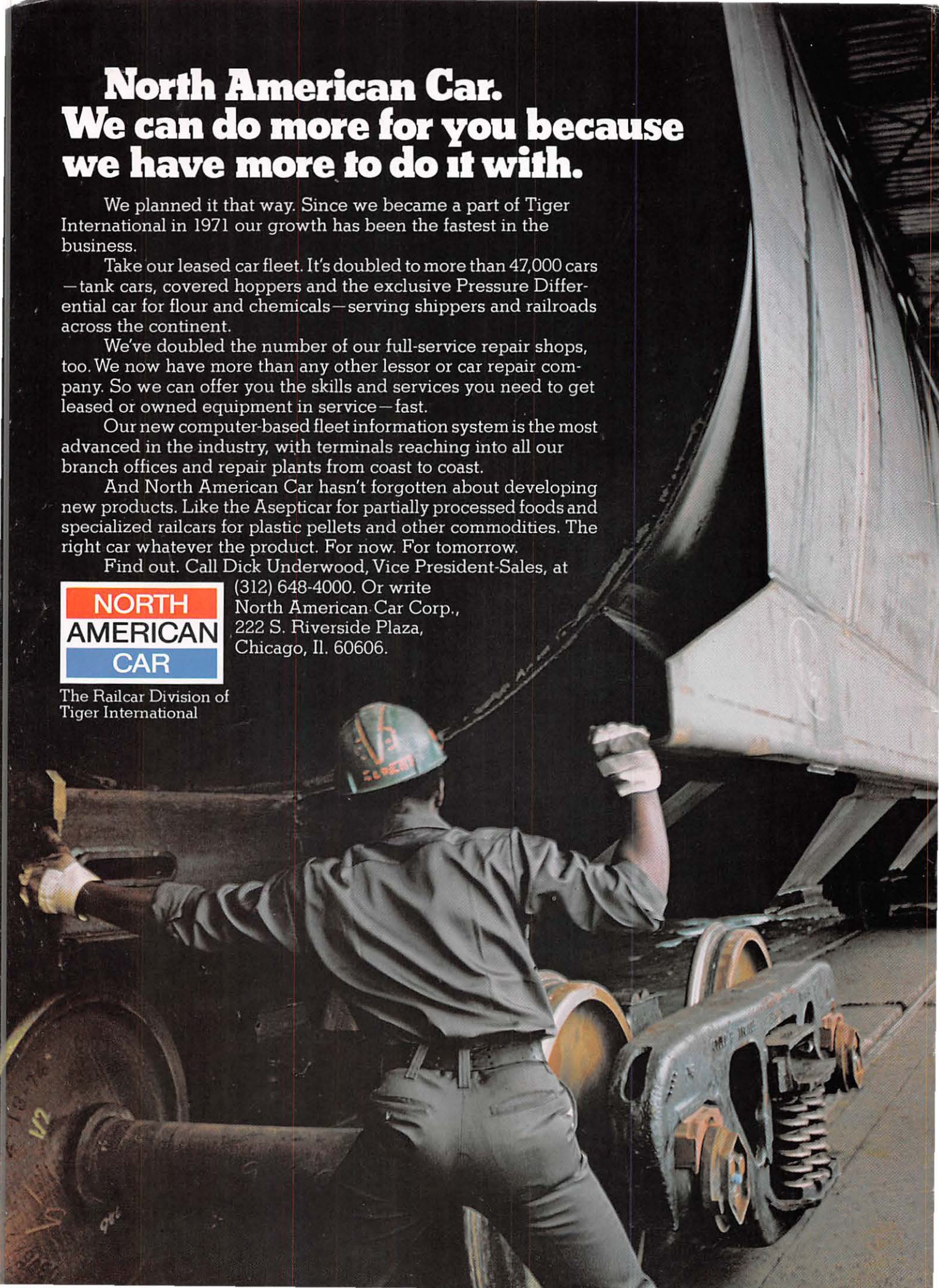

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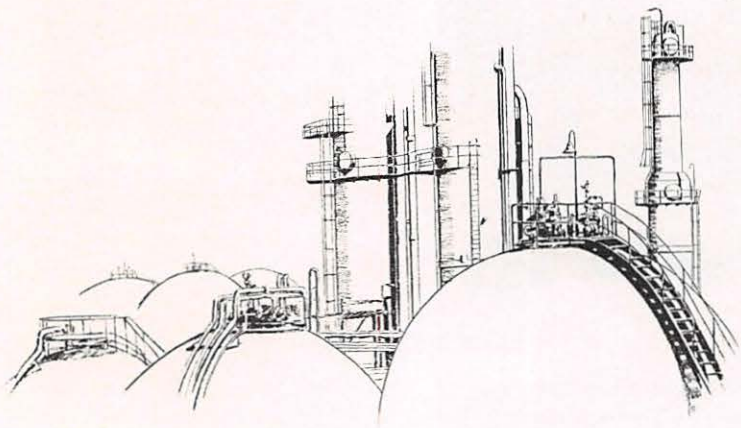

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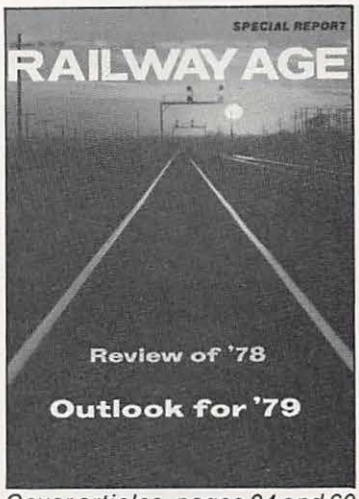
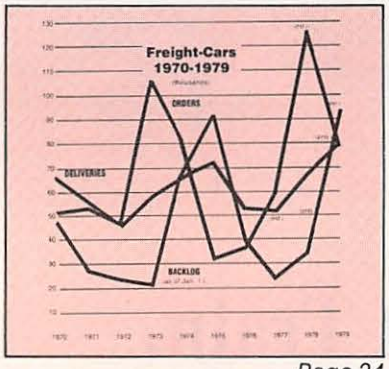
RAILWAY AGE

January 29, 1979

FEATURES



Cover articles, pages 24 and 60



Page 34

Page 49

Outlook for '79

24 **Year of the turnaround?**

29 **Labor: For each problem solved, two remain**

34 **Freight cars: For builders, a good year**

42 **Locomotives: Output, deliveries going up**

49 **M/w: Rail, tie renewals head for record high**

Review of '78

60 **Record high activity, but little profit**

77 **Car and locomotive orders**

NEWS

4 **Short and Significant**

10 **Blizzard of '79: How the rails coped**

12 **Deregulation: What the railroads want**

12 **Watching Washington**

14 **North American acquires STI**

96 **The Railroad Market**

COMMENT

3 **Inside**

14 **Lines on Labor**

DEPARTMENTS

96 **Carloadings**

94 **Letters**

100 **New Literature**

93 **100 Years Ago**

86 **People in the News**

100 **Products Report**

90 **Suppliers**

99 **Guide to Advertising**

COVER: Santa Fe track into the sunset at Edelstein, Ill.

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On the MOPAC, 1941.

This is about the ASF Test Train.

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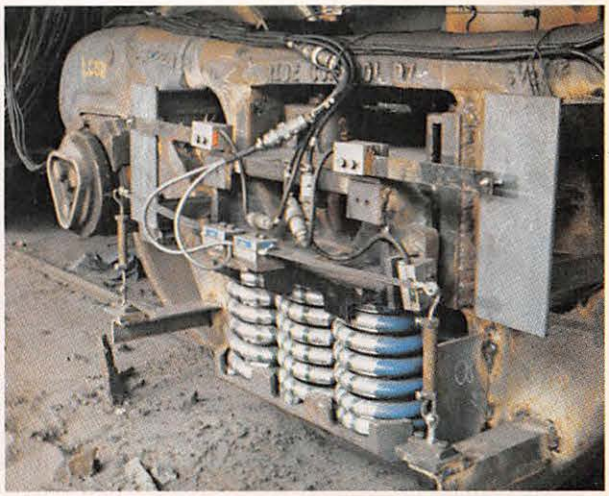
On the DOT Track, 1974.



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Blizzard of '79: How the rails coped

The president of one Chicago-based railroad moved into an athletic club a few blocks from his office. Another Chicago road's vice president stayed in a cold business car at a loop train station. The chief operating officer of a third road helped dig out switches, while the public relations man for another helped throw switches in a major yard. Carry-out food trays and empty coffee cups piled up in ICC and railroad offices as ICC and rail staffers kept the information moving—about trains that were not moving.

It was the blizzard of '79, and railroad operations in the Midwest, especially in the Chicago area, would not recover for more than a week. By midnight Friday, Jan. 12, 1.5 inches of snow had fallen; by noon Saturday, 12.2 inches; by midnight Sunday, the total was 20.3 inches, whipped into deep drifts by northerly gales. Then sub-zero temperatures moved in.

The total of freight trains moving, according to one ICC estimate, was less than 5% of the normal number. Nearly every major Chicago-area yard was shut down. As they rushed all available personnel and machinery into the yards to clean switches and open tracks, five Chicago roads also had to dig out commuter equipment for some semblance of a Monday morning rush hour.

Milwaukee Road's Bensenville yard, Chicago & North Western's Proviso, Illinois Central Gulf's Markham, Rock Island's Blue Island, Burlington Northern's Cicero, and Chicago Belt's Clearing were among the hardest hit. All were virtually shut down Sunday and Monday and well into Tuesday.

By late Tuesday, Markham's southbound hump was open, and the main lines of Chicago Belt and Indiana Harbor Belt were being opened. On Wednesday, Chicago Belt resumed operations on one hump; Blue Island, Proviso, and Cicero were partly open; and Markham's northbound hump was back in service. On Thursday, Proviso was approaching 85% of normal operations, and flat switching was under way at Bensenville (the hump was back in operation Thursday night).

But there still were freight trains stuck on main lines in all directions from Chicago. As a Milwaukee Road officer put it: "We've got the longest two-track yard in Illinois." He was referring to the double main between Chicago and Milwaukee, which was not expected to be fully open until sometime during the Jan. 20 weekend, though some Sprint piggyback trains and a few general freights were threading their way through the drifts. On ICG late in the week, the main line south from Chicago was still partly blocked by stalled trains.

For many railroads, the priorities, insofar as they could be maintained, were the same—commuter trains first, then piggyback trains, then coal and general freight trains. Lost in the shuffle, as Amtrak officials quickly discovered, were most passenger trains.

The Chicago situation presented the perfect test for the ICC's recently announced winter emergency plan for minimizing service disruptions (RA, Nov. 27, 1978, p. 12), aimed mainly at railroad-shipper cooperation in diverting shipments from areas already clogged. ICC's chief tool, in addition to a beefed-up Chicago staff, was Emergency Order No.

> Chicago's situation: A test of ICC's winter plan for minimizing service snags

16, issued Jan. 15, which authorized railroads operating in the Chicago switching district (northeastern Illinois and northwestern Indiana), to divert traffic via any route that would expedite movement and keep interchange going outside the Chicago area. "Traffic necessarily diverted by authority of this order shall be rerouted so as to preserve as nearly as possible the participation and revenues of other carriers provided in the original routing," ICC said. "The billing covering all such cars rerouted shall carry a reference to this order as authority for the rerouting." The order was to remain in effect until midnight Jan. 19.

In addition, the ICC embargoed inbound shipments for the Chicago district except for those permitted by the destination line-haul carrier with concurrence of the road placing the cars for unloading.

Also on Jan. 15, ICC suspended for the Chicago switching district its Service Order No. 1332 that normally requires placement, pickup, forwarding, interchange, or repair of cars within 60 hours of receipt. The suspension was to last until Jan. 26. Also, the ICC brought in field personnel to maintain communications at its regional office in downtown Chicago, and to inspect Chicago yards.

It was not immediately clear just how well the ICC's winter emergency plan was working, but there were some indications from both ICC and railroad representatives that efforts to divert traffic and avoid further congestion were paying off. Also not immediately clear was just how much the revenue loss from the week of Jan. 14-20 would hurt the railroads, on top of the extra costs of restoring operations. Such revelations will no doubt be saved for first-quarter reports.

But already clear were some good stories of how the railroads coped. A small but crucial road in the overall Chicago picture, the Elgin, Joliet & Eastern, never shut down, thanks largely to a well-organized snow plan (RA, Dec. 11, 1978, p. 22), that called for even the company's public relations man to throw switches. The result was that EJ&E's major Kirk yard at Gary, Ind., stayed open throughout the blizzard. Also staying open, but on a limited basis, was the Santa Fe. "We were slowed down, we were late, but we were never out of business," a Santa Fe spokesman said.

On the Rock Island, where "blizzard bulletins" kept employees informed and tried to boost their spirits, snow removal efforts enabled the railroad to (1) resume interchange, (2) run one of the first piggyback trains out of Chicago after the storm, and (3) have both tracks of the Blue Island-Silvis, Ill., main line open—all on Jan. 17.

Among those clearing Rock Island switches was C. Bruce Sterzing, chief operating officer, plus 13 engineering department officers. Also Rock Island traffic department officers helped shovel at Chicago's LaSalle Street station to enable the railroad to provide some of the best commuter service during the week. At Blue Island yard, local teenagers helped Rock Island personnel clear snow from switches and tracks. One blizzard bulletin said: "Encouraging note—industries along the line are helping clear tracks and switches as well as removing snow from around freight cars."

Also encouraging was the general picture as of late Friday, Jan. 19. Another snowstorm predicted for Chicago early Friday failed to arrive. Railroads were able to continue digging out without having lost ground to new snow accumulations. The Belt Railway's second hump was about to go back into service. The ICC at Chicago reported that most railroads were moving cars out of the area and that the flow of inbound cars might be resumed Saturday. But, both ICC and railroad officials were anxiously watching yet another forecast for a snow-and-ice storm.

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MEMBER RPI

Watching Washington

Has 4R worked? O'Neal says: "We don't know"

When ICC Chairman A. Daniel O'Neal rose to address the annual meeting of the National Council of Farmer Cooperatives in Las Vegas Jan. 10, he observed wryly, "This is a message I should probably deliver to a railroad gathering, but I haven't received many invitations from them lately." His subsequent remarks did not seem calculated to send railroad program-committee chairmen beating a path to his door.

O'Neal's "message" was that the railroads, by and large, have more rate-making freedom than they are willing to use in situations where competition exists; what they really want, when they seek still greater deregulation, is a license to "exploit" captive shippers, he suggested.

The 4R Act of 1976, said O'Neal, "was designed to give the carriers a shot in the arm with some financial assistance and make it easier for them to compete. . . . It gave the railroads greater freedom to raise and lower rates. In effect it said the commission could not ordinarily regulate rates where there was adequate competition for the railroads. Where they had competitors the railroads were to have the freedom to mix it up with those competitors. The existence of competition would protect the public from overzealous rail rate increases. Another vital element of the 4R Act . . . was its encouragement of rate innovation."

Has the 4R Act worked? "We don't know if the act has worked," said O'Neal, "because the railroads have not really used it. . . ."

"They have filed for only a handful of innovative rate increases. They haven't used its provision in a way to establish new pricing, marketing, and operating strategies that would allow them to become more competitive.

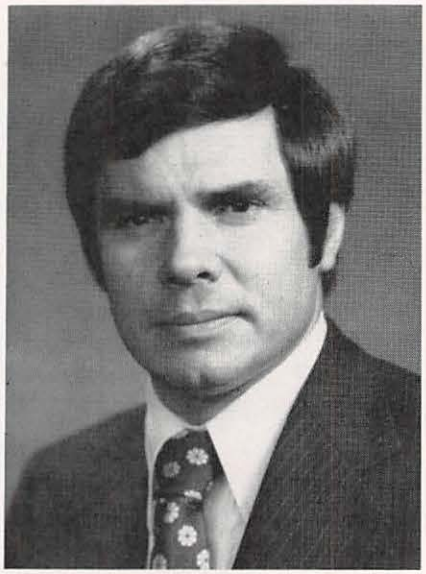
"Indeed, the railroad complaints are not so much that the ICC has not allowed them to compete, but rather that the ICC has not allowed them more freedom where they need not compete—where they have monopoly power.

"Some carriers have concluded that they cannot make money where they have to compete with other carriers—that is, in those areas where the 4R Act lifted rate regulation almost entirely. They feel they can only make sufficient money where they have no effective competition. Where, in other words, they have shippers who have no real choice of competitors—that is, captive, shippers."

"Try it—you might like it"

Chairman O'Neal's concluding message was this: "If the railroads develop and propose innovative rates—rates that are responsible and in keeping with the intent of the 4R Act—and we reject them, they will have made their case for new legislation. If they make such proposals and they are approved, they'll have shown that the 4R Act indeed does work.

"To the railroads then, I say, try it. You might like it."



ICC Chairman O'Neal

ICC forecasts slight traffic gain for rails

The Interstate Commerce Commission is forecasting a real growth of around 2% in the Gross National Product for 1979—and this, says the commission, will translate into railroad traffic levels that will be only slightly higher than those of 1978. The ICC expects the first half of '79 to be relatively strong, with a slight downturn in sight for the second half. Copies of *Transportation Outlook & Projections—December 1978*, prepared by the commission's Bureau of Economics and Bureau of Accounts, are available from the ICC, Room 1211, Washington, D.C. 20423.

Deregulation: What the railroads want

The broad outlines of the railroad industry's approach to deregulation were sketched by Richard E. Briggs, vice president-economics and public affairs of the AAR, in a Jan. 16 address prepared for the New England Railroad Club.

"The first basic element of the deregulatory package is for freedom to raise or lower rates in response to market forces," said Briggs. "If railroads are going to compete successfully against other modes that have this freedom, then they must have it too, and no sound justification can be found for not granting the railroads this flexibility. While captive rail shippers would still be protected, other rates could be changed without ICC interference.

"The reform legislation should also provide expedited restructuring procedures, including speedier abandonment of uneconomic services subject only to a public notice requirement and perhaps a six-month continuation when a timely and firm written offer of subsidy or takeover is made.

"The commission's power to usurp management prerogatives in rail service operations which result in the inefficient use of railroad resources also must be curbed as part of any program to restore industry viability."

Briggs suggested that "in such an open environment, further deregulation of trucking and water carrier industries would be possible, although it is important that such deregulation follow, not precede, rail deregulation. Otherwise, the already lopsided regulatory handicaps facing the railroads would wreak additional havoc."

He concluded: "What we're really saying in all this is that the railroads have got to be permitted to compete on equal terms with their competitors, which they have not been permitted to do under past and present policies. And we are saying the best and cheapest set of solutions for the public is less regulation and less subsidy."

Briggs warned that "there will be powerful opposition from our competitors in the easing of the regulatory stranglehold on the railroads, you can be sure. After all, they have been profiting from those handicaps for years. But, where justice, fairness, consumer costs, and fuel efficiency in the transportation environment are concerned, we're on the side of the angels."

He predicted: "With national political sentiment running with the concepts of less regulation and lower government spending, change can occur much faster than we have ever experienced in the past. To those accustomed to the snail's pace of change in rail policies, I suspect the revolution is near."

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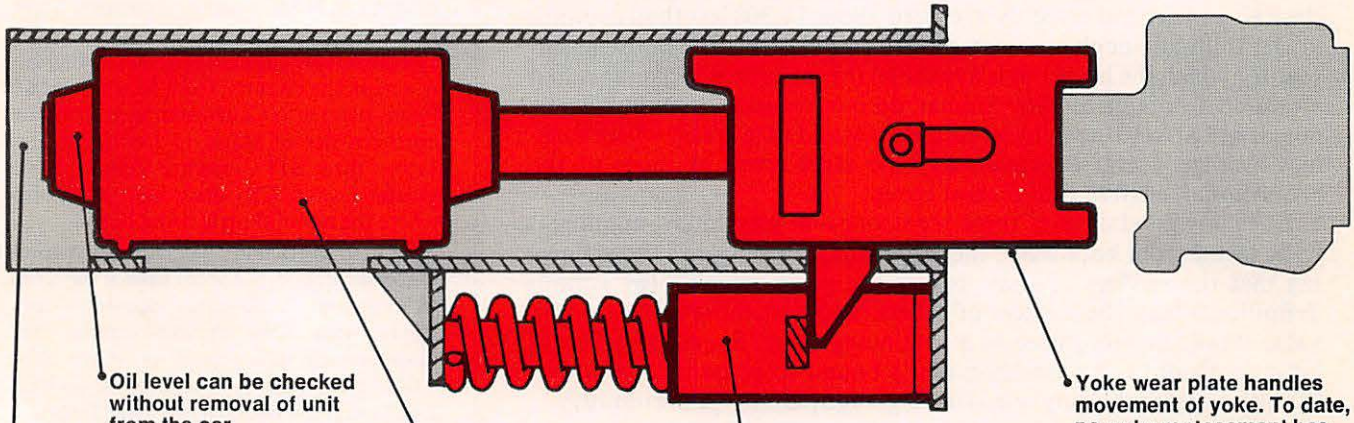

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Lines on Labor

GUS WELTY

MORE QUESTIONS. . .

The wage dispute between the railroad industry and the Brotherhood of Railway and Airline Clerks may soon—or sometime—be ready for filing away in the archives. But some of the questions raised in that dispute—and in consideration of wage patterns generally—may have to be addressed again, at least philosophically and, quite possibly, practically. And, of course, one of those questions has to do with compression—or rather, in a sense, decompression. Put most simply, it has to do with the fact that if Employee A makes more than Employee B, every time A and B get the same percentage wage increase, the spread is going to widen—and Employee B isn't going to like it. This is what has happened in recent rounds of wage negotiations and, this time around, BRAC stood up and hollered. Also, it could be noted that the spread between broad categories of employees has indeed gotten bigger. In 1973, annual earnings in the professional, clerical, and general category averaged about $4,300 less than earnings in the train-and-engine-service category, while in 1977 (most recent year for which the breakout is available) the difference in averages had increased to about $5,400. Similar decompression, it could also be noted, has affected employees in the m/w and m/e areas, where earnings average out at approximately the same levels as those of the professional, clerical, and general group.

As in any good debate, there are strong—at least loud—arguments to be heard from both sides, those demanding parity and those figuring that the services of some people are more valuable (by various definitions) than the services of others, and that those differences in value should be recognized as a continuing thing. So, compression vs decompression: It's a question that's bound to come up again—but it's by no means the only one affecting wage patterns in the industry.

PROBLEMS WITH PATTERNS: THERE ARE A FEW

Move along now to another question, one raised by some of those looking at the crew-consist agreements made last year by a couple of roads, agreements that called for direct payments to train-crew personnel working on reduced crews and for railroad contributions to a fund to be divided among protected train-crew personnel on a basis of assignments worked, with payment from the fund to be limited to one-third of an employee's annual earnings. As more reduced-crew assignments are worked, and as the pool of protected employees is gradually reduced through attrition, the end-of-the-year split will get bigger. And what happens, then, to the relationship between engineer earnings and train-crew earnings?

Need another problem? Well, there's always the one involved with pay compression between first-level supervision and the employees being supervised. That one has been around for awhile (and it's a skewed analogy that compares the situation to the sports world, where the athletes very often makes more than the coach). Different approaches can be taken to the supervisor-supervisee problem, one being to "compensate" the supervisor in ways not directly related to the paycheck. But, to sketch it most garishly, there's still a problem if the supervisors get a reserved parking lot and fill it with battered Fords and Chevvies while the unreserved parking employee lot looks like a Mercedes showroom.

In the whole context of who gets what, you could fall back on the comment of a TV network chief who was asked by *TV Guide* to defend the $500,000 a year salaries paid to some anchormen. The gist of the reply: Practically nobody is really paid what he's worth to society; he's paid either too much or too little. That's an interesting and perhaps accurate observation. But will it fly with a general chairman —or an assistant trainmaster?

North American acquires STI

Growth-minded North American Car Corp. has been steadily expanding its network of railcar repair shops over the past several years—but a few weeks ago North American completed its biggest expansion yet, with purchase of Surface Transportation International, Inc., and P & R Rail Car Service Corp.

STI, which has concentrated on maintenance and repair of unit coal train equipment, operates seven shops and has a multimillion-dollar wheel shop under construction; P & R has a single shop (in Maryland) for tank car and general car repair.

With the acquisitions—which were made for cash and about 100,000 shares of stock in NAC's parent company, Tiger International— North American now has 19 full-service shops scattered strategically across the country from Maryland and Pennsylvania to California, and from the northern tier of states to Louisiana and Texas; three STI shops are located in the greater Kansas City area, and that's also where the wheel shop is being built.

STI, in particular, has enjoyed considerable success in the short time it has been in existence. It now has long-term contracts with five electric utilities for maintenance and repair of more than 4,000 cars, and it is expecting to add 2,000 cars to the total in the near future.

A few years ago, North American came close to building a major coal-car facility in Wyoming, but at that time it didn't see conditions as sufficiently favorable. At the same time, however, its research indicated that the fleet of utility-furnished cars may double by 1985, to about 50,000 cars—and so the acquisition of STI, with its network of in-place shops, appeared a logical one.

James H. Ozanne, president of North American, describes the partnership with STI as "a first step in our program to become a leading factor in the coal train repair business." STI, he said, has "the management expertise, facilities, and equipment and the experience curve to help us grow in this vital market."

Overall, Ozanne sees growth in capacity and coverage coming from three directions: "One was by acquiring a quality firm such as STI. Another is the expansion of our existing facilities to accommodate coal-car traffic and services. Third, and most likely for the immediate future, is the construction of new facilities expressly devoted to coal-car repairs."

North American, Ozanne added, has done considerable work in evaluating several sites and has completed engineering drawings for new shops. "We expect to make several announcements on this subject in the near future."

Clinchfield clears a derailment...fast

Based on a news article from the March 8, 1976 issue of Railway Age

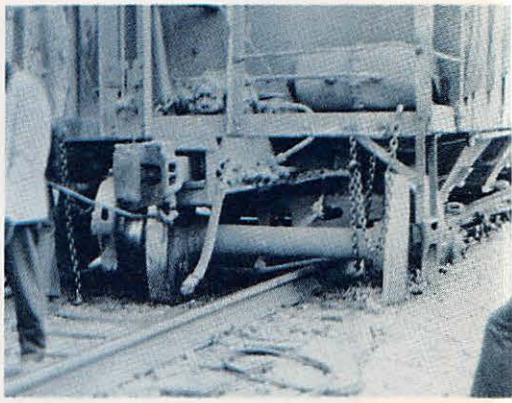
It is 9:45 a.m. when the radio crackles in the chief dispatcher's office at Erwin. Time freight 95 has a car off at mile post 168.5. It's a covered hopper loaded with 80,000 pounds of phosphate at a remote location on a ledge between a mountain and the Toe River, 35 miles to the south.

At 10:06 a.m. a Chevrolet truck equipped with Hy-Rail and a National crane is dispatched to the scene with an M. of E. crew and a Hoesch rerailing system.

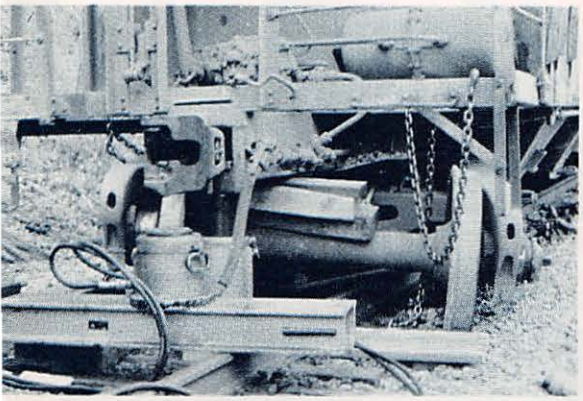
How the Clinchfield cleared its busy main line fast and efficiently is shown in the photo sequence below. In addition to the time savings, Executive Vice President and General Manager T. D. Moore, Jr., points out that this method of rerailing "involves only a very small fraction of the old manner in which we would have required a wreck train."

10:56 a.m.—Crane truck is jockeyed from nearest road crossing, 1-1/2 miles from derailment, to main track for Hy-Rail operation.

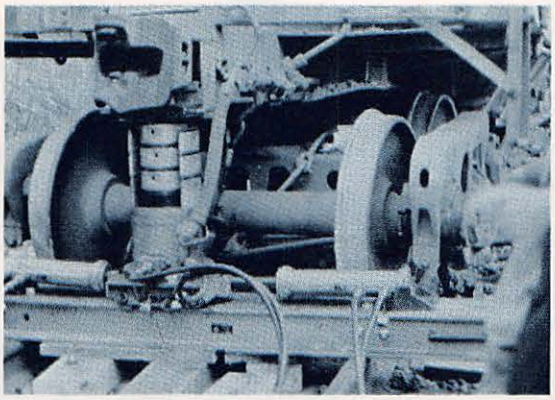
11:02 a.m.—Crane truck, moving backwards in order to be positioned against derailed car, moves to derailment site.



11:08 a.m.—At arrival, crew finds heavily loaded car with forward truck at near right angles to rail.



11:37 a.m.—Hoesch hydraulic rerailer is positioned under coupler, with lines connected to compressor on crane truck.



11:52 a.m.—Hydraulic jack has raised truck clear of railhead and moved it laterally, positioning wheels for rerailment.

12:16 p.m.—#95 is rolling at restricted speed with cripple in tow to be set out at first side track.

For complete information about Hoesch hydraulic rerailment equipment, call or write—

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HOESCH AMERICA, INC., 3340 Peachtree Road, N.E., Tower Place 2470 / Atlanta, Georgia 30326 / Telephone 404/261-7111

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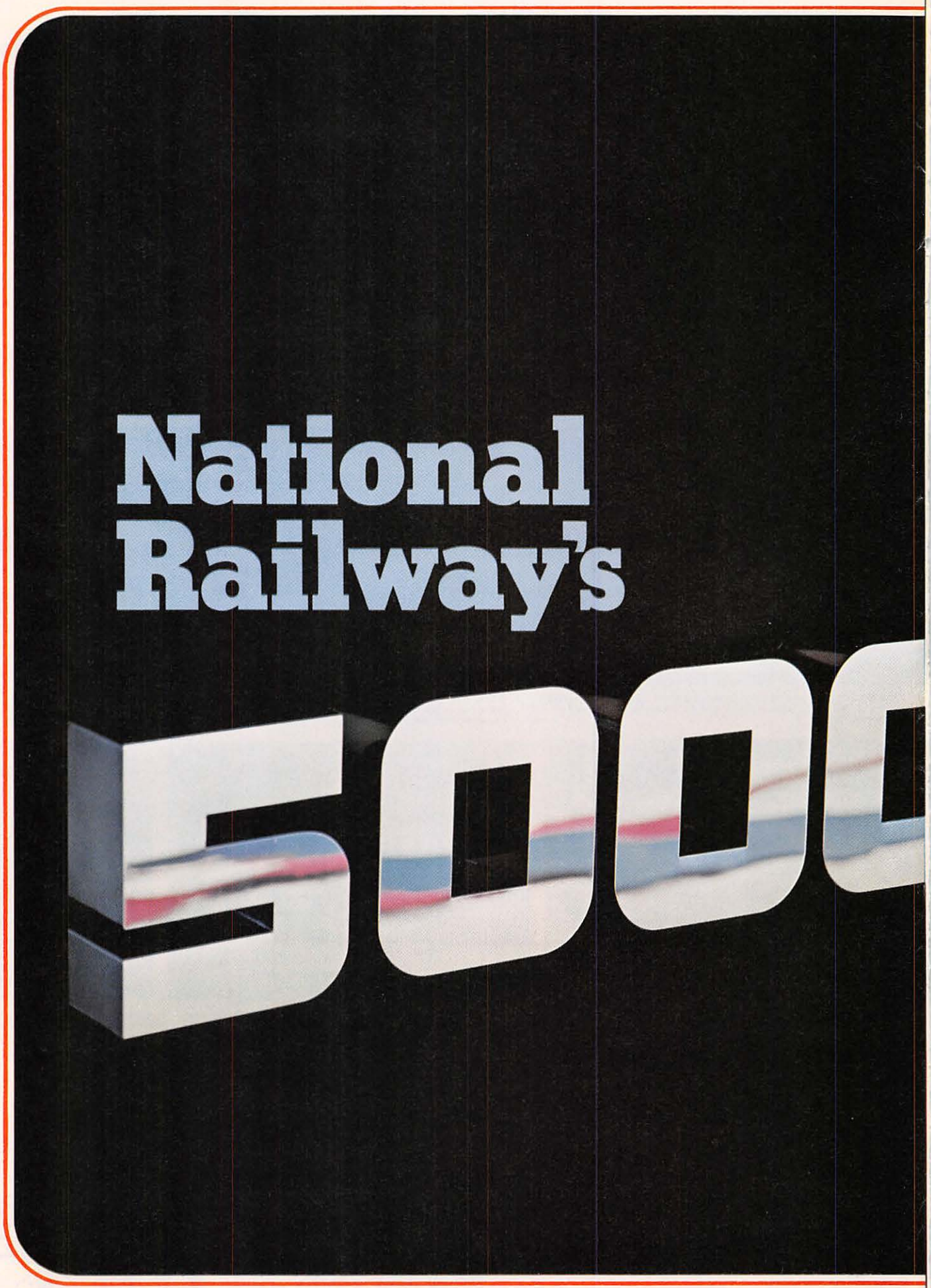
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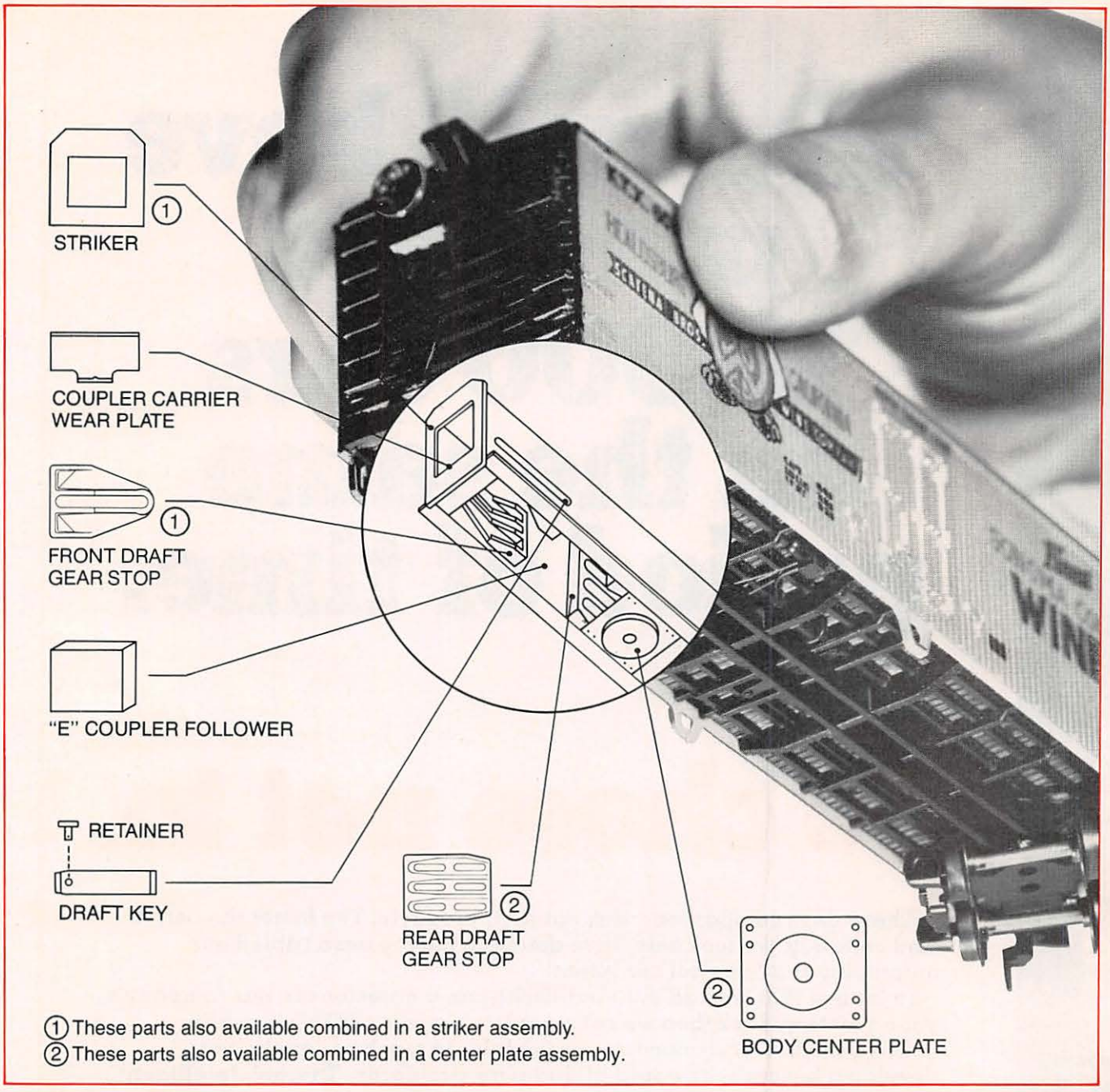
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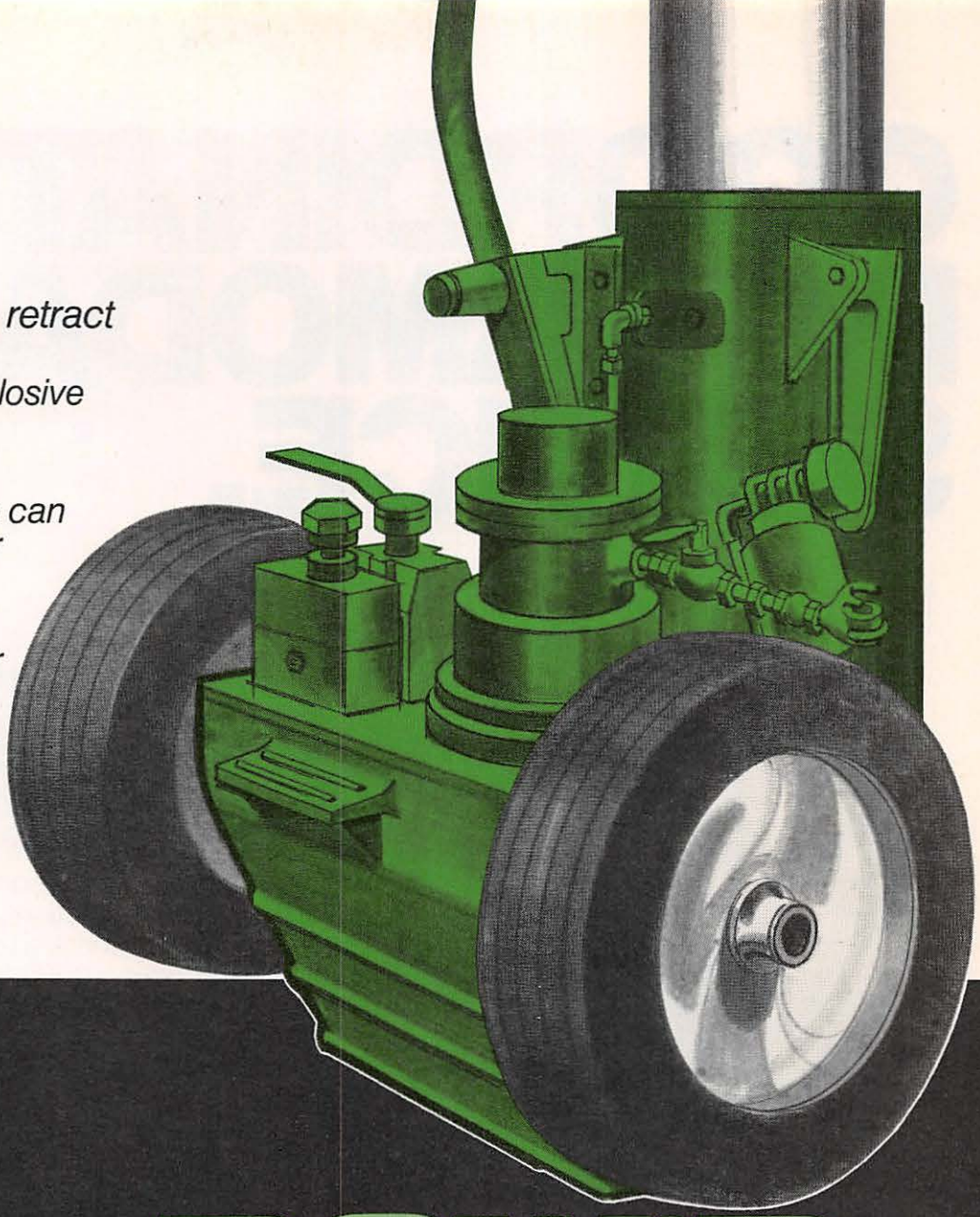

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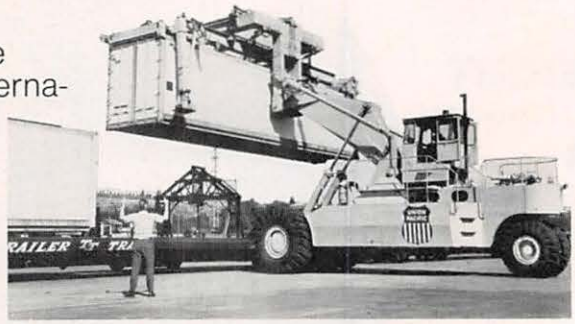

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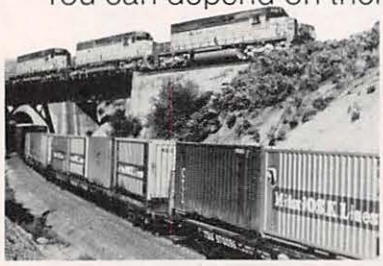

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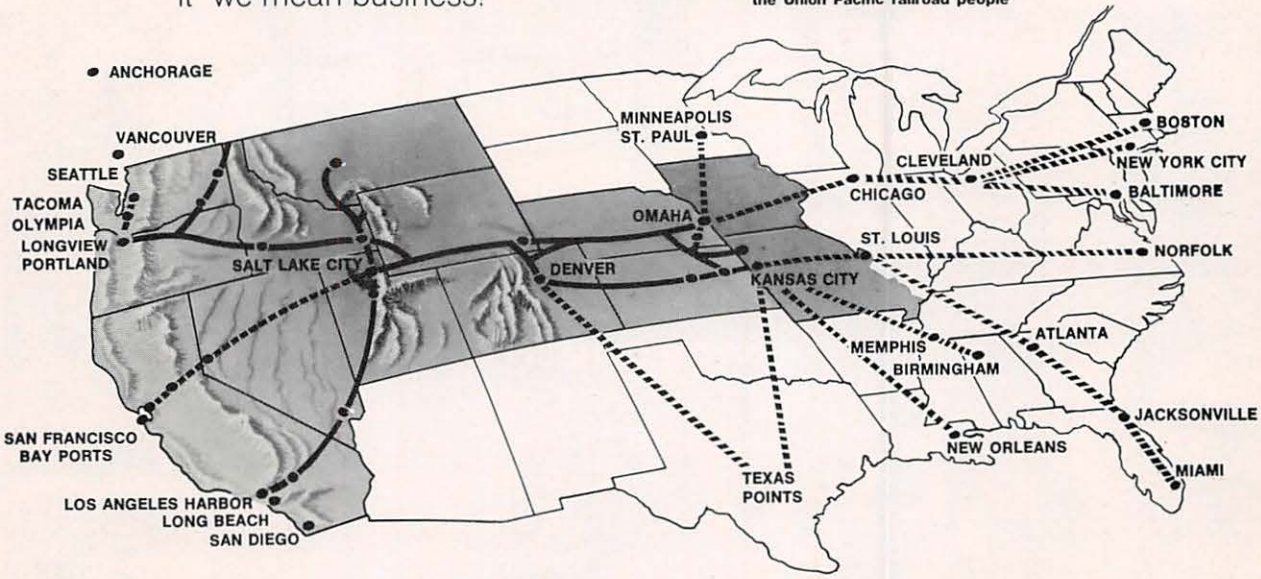

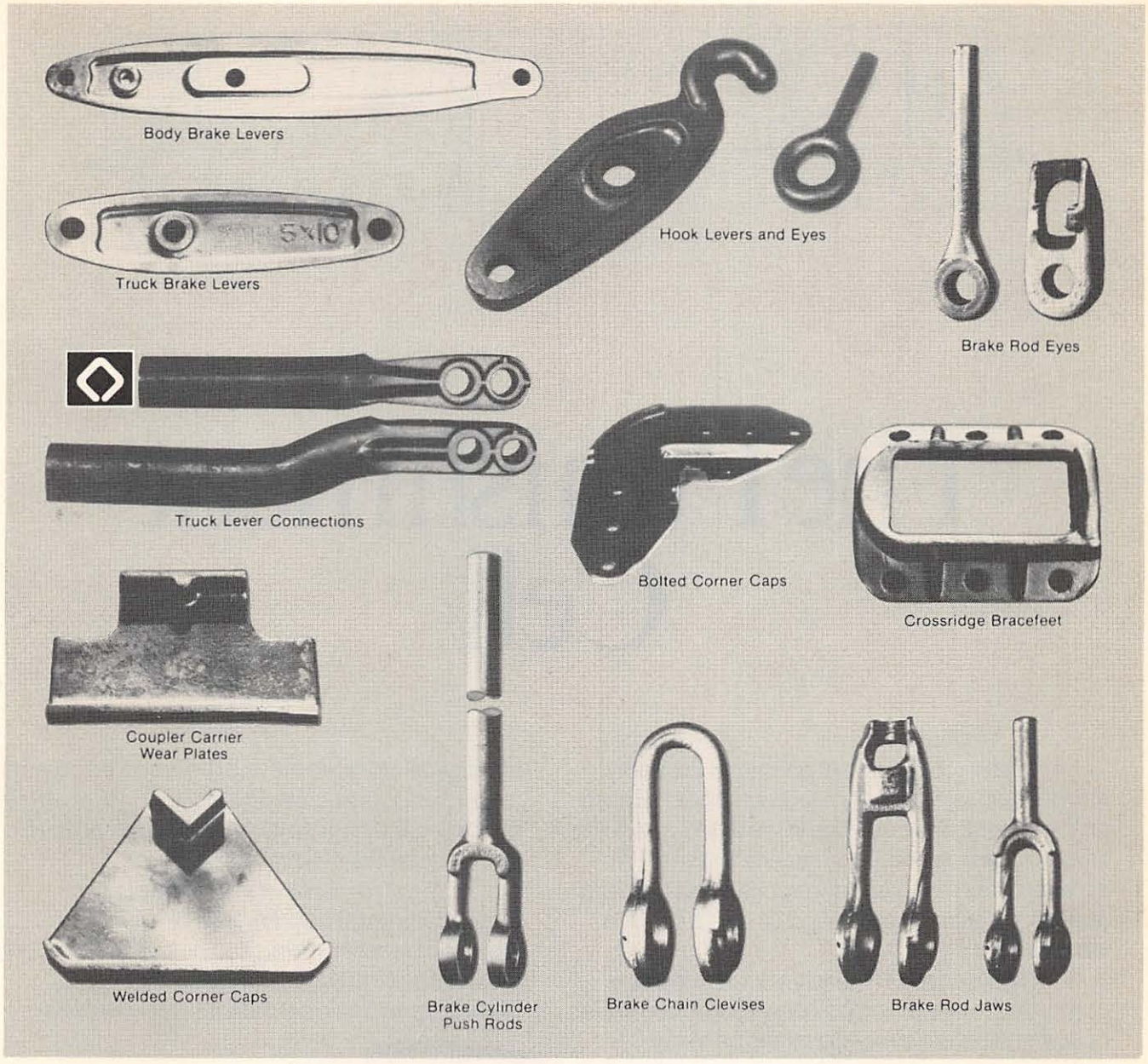

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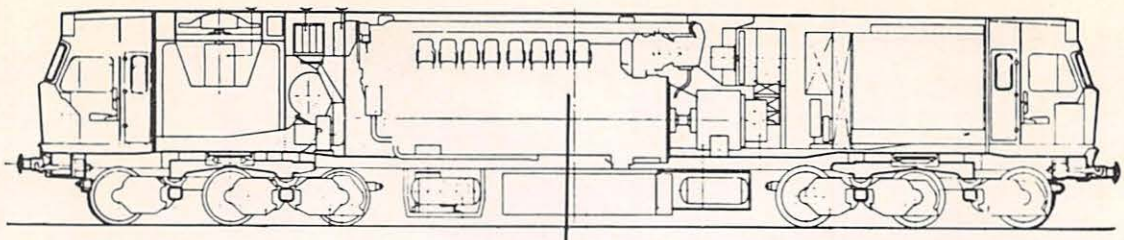

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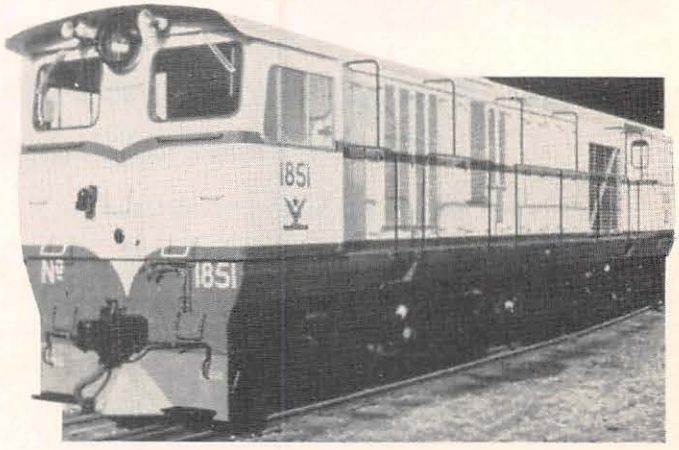

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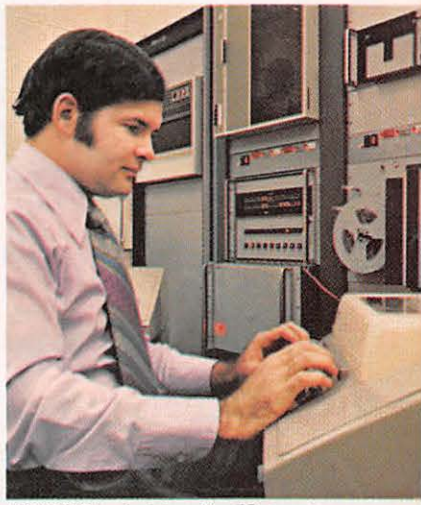
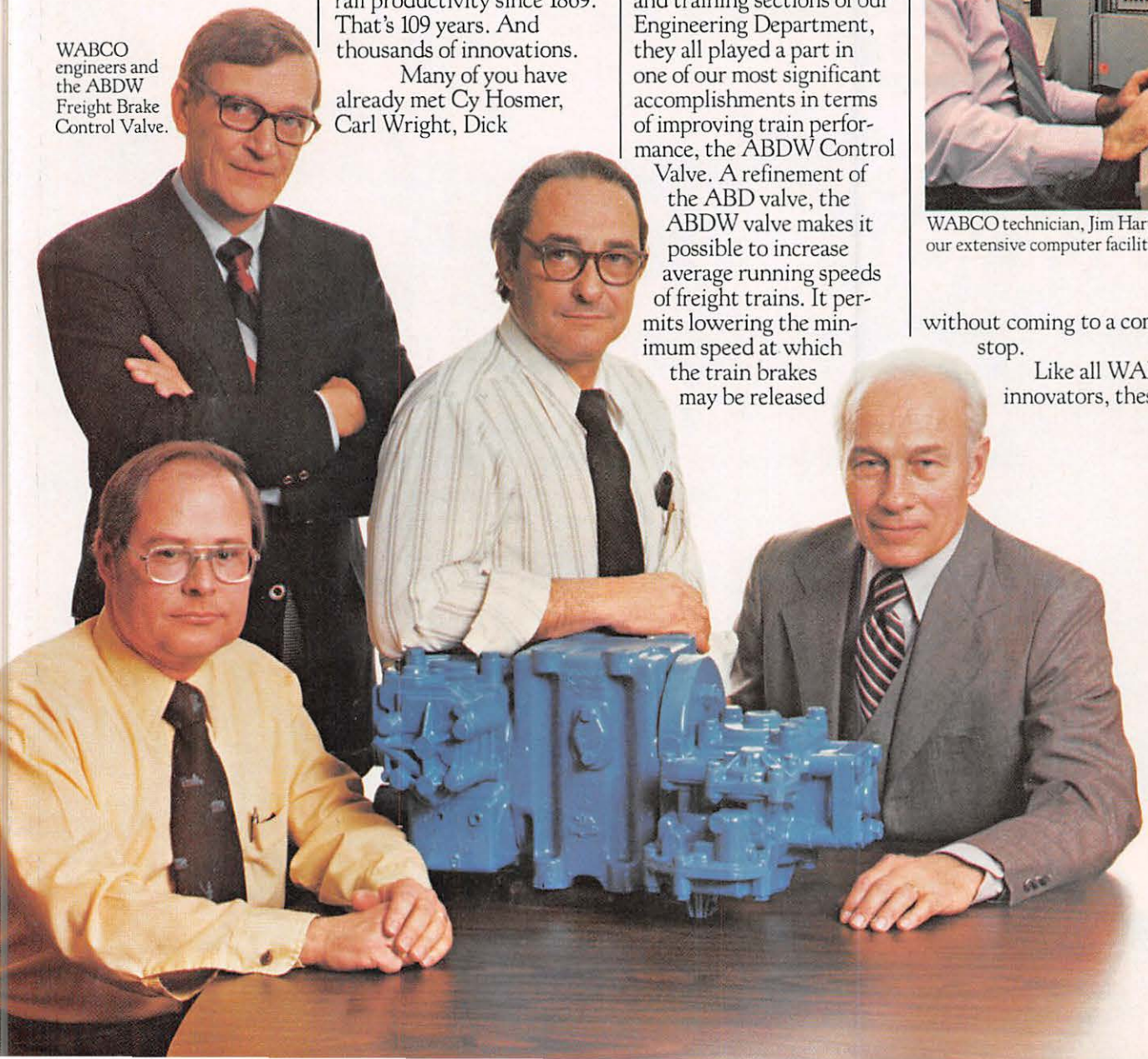
Like all WABCO innovators, these



WABCO technician, Jim Hart, using our extensive computer facilities.



WABCO engineers and the ABDW Freight Brake Control Valve.

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men worked toward one goal when they were developing the ABDW concept: create equipment that is compatible with existing braking systems, that *improves* those systems and provides proven reliability. WABCO reliability. The same demanding criteria were applied to WABCOPAC® Brake Assembly and SC-1 Empty & Load Equipment—other WABCO products that help increase wheel life.

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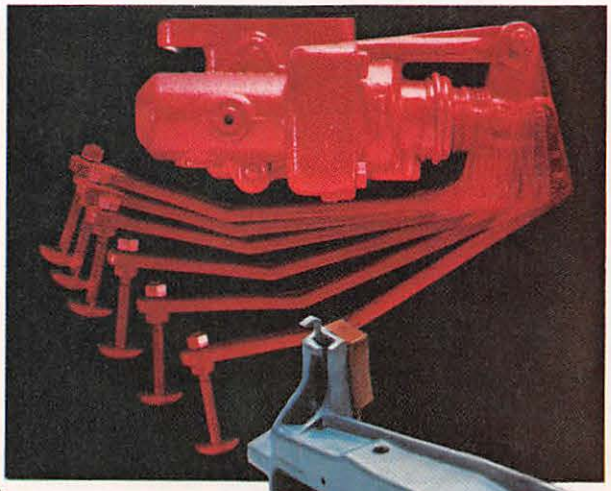

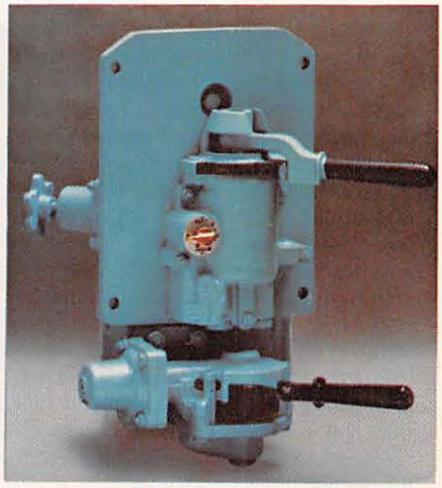

Three WABCO innovations: SC-1 Empty & Load Equipment, WABCOPAC® Brake Assembly and 26-L Brake Valve.

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Outlook for '79

Year of the turnaround?

By GUS WELTY, Senior Editor

Railroads need a "turnaround" year — and 1979 could be it.

The forecast contains a fair number of positives, a few negatives, and the usual number of imponderables. On balance, it offers hope that on Dec. 31, 1979, those summarizing the year will be able to write that:

—Freight ton-miles and freight revenues reached new highs again, and, for a change, all of that production and all of those revenues translated into something meaningful down on the bottom line.

—Railroads ended the year in far better shape than they began it in terms of traffic-handling capability, largely because record-high numbers of dollars were pumped into equipment acquisitions and plant improvement and maintenance.

—After years of talking about it, government in '79 finally did something about lifting the heavy hand of regulation, and it even moved farther toward a transportation policy in which fair and even treatment of modes gets something more than lip service.

—Transportation users were able to relax just a bit because of improvements in rail service reliability, and their thinking turned to ways of making greater rather than lesser use of that service.

—Suppliers of railroad equipment and materials began to assess their market as high-plateau rather than peak-and-valley.

● **No promises, but...** Are there guarantees that this is what actually will be written next Dec. 31? Of course not, especially in view of the imponderables that could turn '79 into a 365-day guessing game. Still, the outlook does give rise to a reasonable optimism.

Transportation demand will hinge to at least some extent, naturally, on the peregrinations of the economy, and at this point a number of economists are carefully festooning any optimism with warnings of a possible—maybe probable—recession. In this context, though, a couple of things could be pointed out. One is that in 1978, in an economy that could have used a good tonic, rail ton-miles increased. Another is that major shippers do not seem pessimistic; even the automobile industry is talking of another good sales year, and it has negotiation of new labor contracts to contend with in '79. A third factor is strictly political, and it is that no Administration, even one with modest economic expertise, would choose to head into a Presidential election year with the economy in bad trouble.

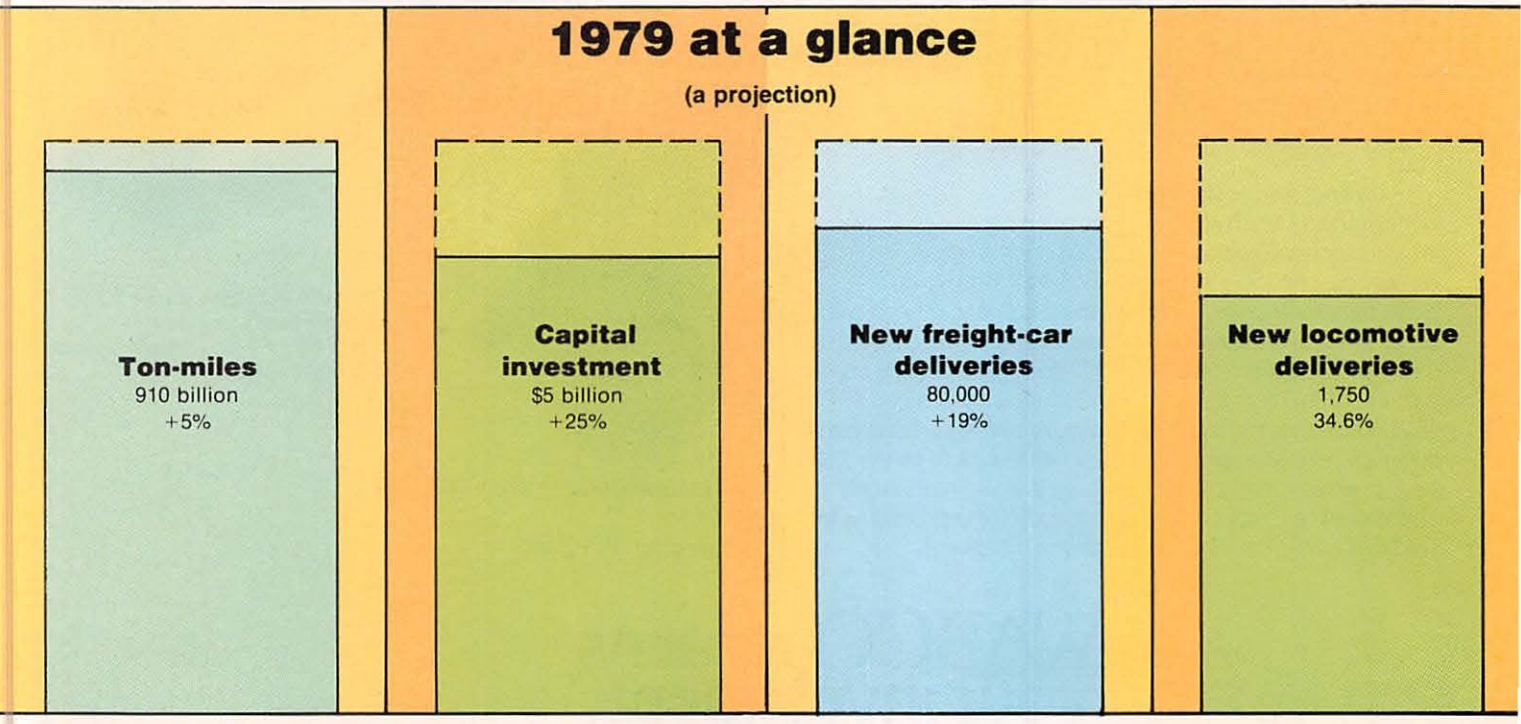
Assumptions have to be made. A logical one, tinted only somewhat rosy, is that if there is recession, it will be shallow and of relatively short duration.

Assumptions also have to be made about the rail industry itself, and here there is somewhat more solid ground to stand upon.

● **On the up side.** Start with the industry's improvement programs. Railroads are coming off a year in which about 68,000 new freight cars were placed in service, along with about 1,300 locomotive units. Reasonable estimates for 1979 see deliveries of about 80,000 cars and perhaps 1,750 locomotives. Actual construction capability should be no problem, at those delivery levels, and whatever component supply problems exist—especially with heavy castings—are now expected to be reduced by a step-up in imports from a number of countries. And perhaps significantly, a number of major rail suppliers have begun to talk of the market not just as high-level for a year or so but as high-level out as far as five years.

The equipment acquisitions, last year, this year, and beyond, should go a long way toward eliminating motive-power shortages and reducing even peak-period car shortages, while car programs continue to give shippers higher-quality cars for loading.

Fixed-plant improvements, from all indications, will keep pace, and while railroads already in good shape are staying that way, other roads appear to be in position to get there: More financial assistance under the 4R Act has been made available



to railroads needing it, and Conrail—while it has had unexpected problems with equipment condition—has stayed on or ahead of schedule with plant improvement. With increases in intermodal traffic and in unit coal-train operations, a lot of roads are shouldering a heavier burden for terminal improvements, for improving track, and for installing new traffic-control systems; thus far, they're handling it well (though there are those who see potential problems, and missed opportunities, if TOFC/COFC terminal expansions are not speeded up).

Meanwhile, with the improvements in equipment and plant and with improved efficiency in the scheduling of car movements (loaded and empty), transit times should become more dependable. You'll know that this has happened when shippers' pleas concentrate more on speed of service than on reliability.

• **In labor...** Another assumption that has to be made about the railroads is that 1979 will be a relatively peaceful year in the labor-management area, despite the fact that the year began with one major union threatening strike action in a case where every other rail union (except for one small one) had come to terms.

For 1979, a couple of things are certain. One is that potential labor-cost increases are a known quantity, with basic wage boosts agreed-to and a formula again in place for cost-of-living increases. A second is that significant relief on work rules will have to be weighed against the costs of that relief: While Milwaukee Road and Conrail did win the right to operate with reduced train crews under 1978 agreements, a number of other roads were taken aback at the savings-sharing costs involved—especially in view of a crew-consist agreement negotiated later in '79 for a major part of Canadian National, in which the carrier appeared to have a better defined and lower liability.

(Labor problems may also figure in the general economic situation. The new year did not start under a cloud, as '78 did with a coal strike under way, but '79 will see bargaining in a number of key industries, including trucking and automobile manufacturing.)

• **Meanwhile, in Washington...** Government's role in transportation in '79 involves perhaps the hardest assumptions to make.

Last year, overall, was a year of gains for railroads. Congress finally (after more than 200 years) levied user charges against commercial users of the inland waterways system. Congress sent coal slurry pipeline

FMC Corp.

What do railroads have to do in 1979 in order to beat along with the public pulse? In a word, more.

promoters packing, by refusing to grant them the right of eminent domain. The Interstate Commerce Commission, reversing a policy of long standing, decided that rail contract rates could be allowed. ICC, changing something else dating decades back, decided that perhaps rail transportation of fresh fruits and vegetables should be exempt from regulation. ICC acted promptly and, for the most part, favorably on rail rate-increase requests. It also issued guidelines as to what would and would not be looked upon favorably in terms of railroad consolidations. For its part, the Department of Transportation put out a railroad capital-needs study (which said that railroads will need a lot of capital) and it delivered an options paper on rail deregulation (which didn't miss many options, soup to nuts).

During '78, a national magazine did a survey purporting to rank Cabinet secretaries in terms of influence, and so forth. DOT Secretary Brock Adams came in last, and that was a double-barreled, over-and-under tragedy—in part because the former Representative from Washington is an honest, intelligent, and knowledgeable public servant who deserves better, but in larger part because the survey results gave evidence that this is just another Administration in which transportation gets last call when the priorities are handed out.

With its actions on waterways user charges and coal slurry, however, Congress may be closer to a reading of the public pulse. With its actions on contract rates and a partial agricultural exemption, ICC may be coming closer, too, to a more accurate reading of what the people want.

● **And from the industry...** What do railroads have to do in 1979 in order to beat along with the public pulse? In a word, more.

"More" is made up of many things, over and above 80,000 freight cars or 1,750 locomotives coming into the fleet, over and above hundreds more miles of continuous welded rail and centralized traffic control systems, over and above agreements allowing trains to be operated with a conductor and just one brakeman.

"More" has also to do with the industry's taking advantage of every opportunity presented to it, especially in the effective marketing of its services—an area where railroads have often seemed less than all-powerful.

"More" also means operating according to the demands of the customer, demands defined as needs, and if that requires a restructuring of commercial considerations and a redefinition of what transportation officers are supposed to be doing, then that's what it requires. Like any other business, railroads aren't going to be able to lose a little on each sale and make it up on volume—but like any other business, too, railroads aren't going to be able to run the enterprise for their own satisfaction and let the customer take it or leave it. On this front, maybe there's hope; the commercial side does seem to be swinging a bigger club in some instances, and on at least a couple of major roads former operating officers are getting an education in what the commercial side is all about by being put in charge of it.

● **Making it work.** Down at the bottom, however, much of railroading still depends upon having the equipment in which to move freight, the power with which to move the cars, and the track on which traffic can move with reasonable reliability.

In the hardware department, it's hard to fault railroad planning and budgeting for 1979.

On motive power, there's a strange situation—one in which the backlog of orders placed but not filled is only about half of the number of units railroads say they're going to acquire in '79. On freight cars, however, it is something else—with the backlog at the end of 1978 exceeding the probable production capability of the carbuilding industry in '79, given the likelihood of component shortages.

Are some of the orders soft? Some longtime observers say so, looking at the buyer-builder relationship as a "handshake relationship" and wondering about the firmness of orders placed by nonrailroad investors (orders that amounted to better than half of the '78 total and orders are heavily weighted toward boxcars). Carbuilders, however, seem less worried: Knowing well what happened little more than a decade ago, when huge orders led a number of companies to come into the business and others to expand facilities, builders have tried to limit their order books to firm orders—and, besides that, as one builder boasts, "For every cancellation, we've got somebody else standing in line."

The fact is, of course, that railroads don't need just "more cars"; railroads also need better ways of managing what they already have. That better management could be coming, through the pioneering research being done on Missouri Pacific as well as through less-publicized efforts going forward on a number of other roads.

Yet to be assessed, in addition, is the tremendous interest in rail equipment acquisition in that nonrailroad sector. In an upturn in service demand, outside investors can make out in a hurry—but if, in fact, 1979 does produce a recession of sorts, speculators could get hurt and a lot of cars could finally wend their way back to short lines that, it is hoped, would have track space to store them.

● **A reading for tomorrow.** So, what about 1979?

—Put it down, first, as a year in which railroads get better and smarter, in operations and in merchandising those operations.

—Put it down as a year in which equipment shortages are no big deal, a year in which plant improvement comes into its own.

—Put it down as a time in which government regulation is relaxed (and hope that the industry can take advantage of the relaxation).

—Don't put it down as a year in which there will be major breakthroughs, because government moves slowly, especially with an election year coming up. Do put it down as a year in which railroads will gain, vis-a-vis other forms of transportation, in terms of even-handed handling of modal regulation.

—Don't look for quick results so far as rail deregulation is concerned. By comparison, airline deregulation could be and was easy, dealing with fares and routes and a few companies. By comparison, too, trucking deregulation could be easy, though dangerous. Railroad deregulation is something else, if for no other reason than that railroads have been regulated by the federal government for close to 100 years.

If you go back to the beginning, you talk about 1979 as a possible year for turnaround, a year of possible turnaround.

You wonder what it will take to make it happen.

You add up what the industry is doing to help it happen.

You look at what government is doing to help it happen.

You see what suppliers are doing to help it happen.

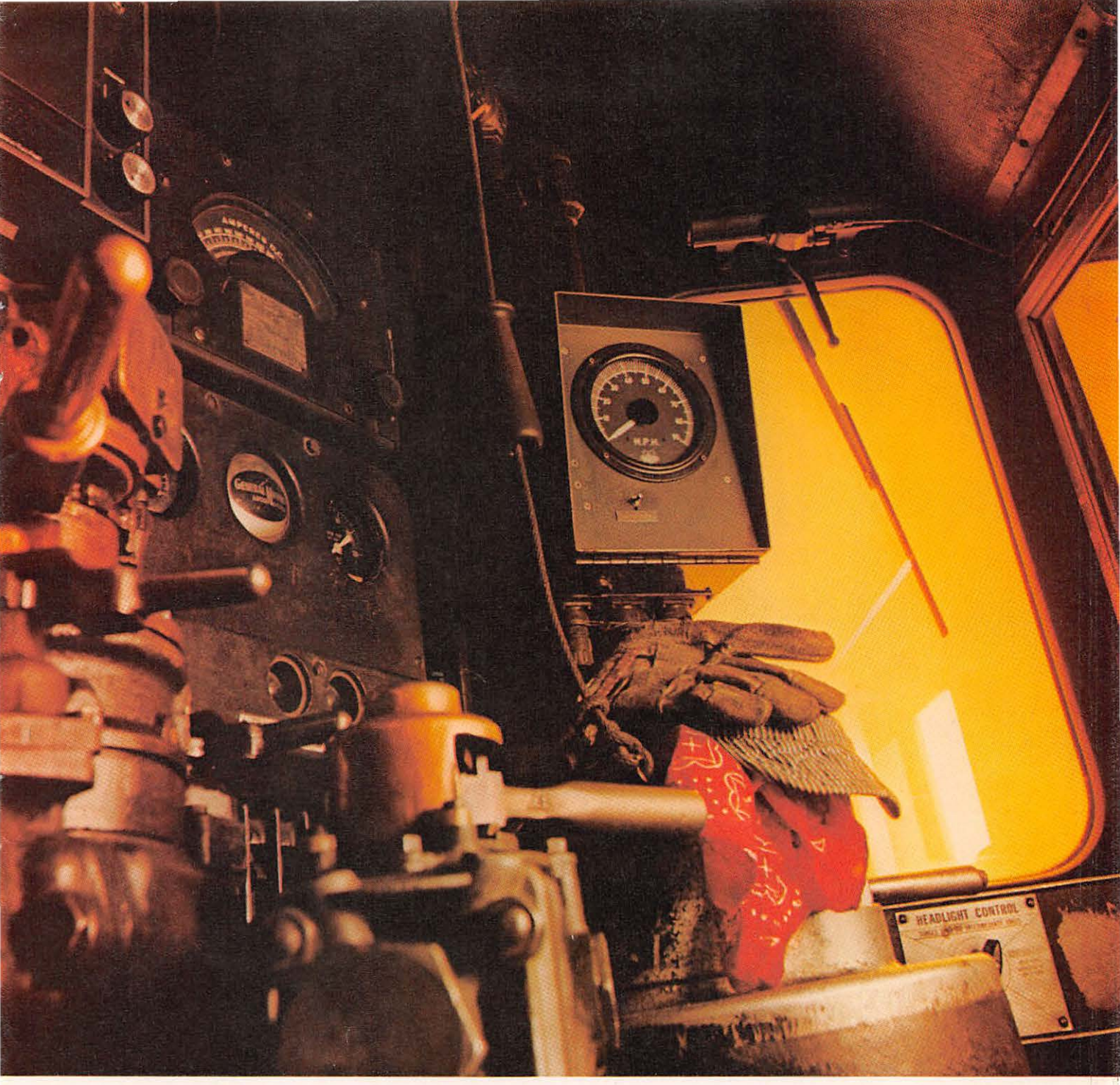
You find a couple of things, and you hope there will be more, that rail labor is doing to make it happen.

You see shippers who need and want good rail service, shippers who want the turnaround.

Finally, you see railroads that customers praise, that are doing the job for the shipper, and that are making money even as they make improvements in equipment and plant.

You look at 1979, and you say that, yes, this will be the year of the turnaround.

And if it isn't, you wonder how much longer the industry—or the country—can wait. ■



A 25-year-old rebuilt locomotive is still a 25-year-old rebuilt locomotive.

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'79 Labor

For each problem solved, two remain

By GUS WELTY, Senior Editor

What difference does a month make, a week, even a day or two? In the case of the railroad industry and its employees, all the difference in the world—between December, when a lot of things were still up for grabs, and a few days in January, when apparent settlements were reached on issues that had been frustrating bargainers and mediators for months. If the settlements were not totally satisfactory to all parties directly concerned at least they seemed better than the alternative—which was to resume the strife that marred rail management labor relations for a good part of the second half of 1978.

● **In the beginning . . .** Railroads did begin the new year with a hangover—a double one in fact. Norfolk & Western and the Brotherhood of Railway and Airline Clerks were still studying the report of the emergency board in their scope/security dispute. And, at the national level, BRAC was still holding out on wages, refusing to accept the pattern that had been agreed to by all other unions except one.

But, a few days into '79, NW and the Clerks did settle, largely on the basis of the board's recommendations—which were, in the usual manner of such things, compromises. And exploratory talks continued between the carriers and the Clerks amid speculation as to how, if at all, an agreement could be reached without denting the Administration's wage guidelines or, at least as important, doing damage to the basic pattern established in mid-1978, which other unions had found acceptable.

What the industry and BRAC finally came up with was a hybrid, a mutation—something that, it was claimed, came somewhere within the guidelines, but something that BRAC felt obliged to say (after all the hassling) was not a carbon copy of the pattern. Some day, perhaps, the ancestry of the agreement will be determined—and its offspring identified.

In the meantime, while BRAC's problems with the industry were the ones that made the January headlines, for the long run, '79 and beyond, observers were looking at a number of other factors, most of them growing out of developments in 1978. Among those factors:

—The impact of the new, 39-month wage/benefit settlement upon the railroads' economic situation.

—The significance of crew-consist agreements reached in '78 on three roads in the U.S. and Canada, agreements that set similar precedents but at widely varying costs.

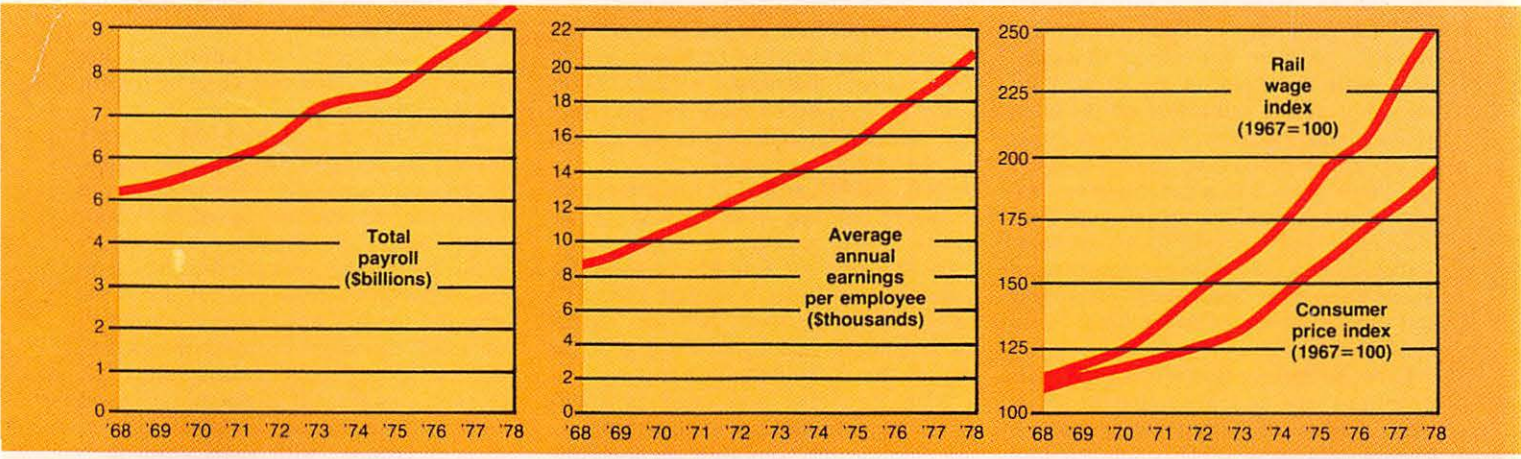
—The impact of BRAC's assault on the industry's service-interruption insurance program, as well as the impact on union militancy of NW's success in continuing operations despite BRAC's strike.

● **Figures and facts.** First, the economic situation, and a few numbers bearing upon it: Railroad employment (excluding Amtrak) dropped last year for the fourth straight year, with average employment estimated at 470,000 persons. Total payroll jumped from $8.9 billion in 1977 to more than $9.5 billion in '78. Average annual earnings per employee topped $20,000 for the first time, and this meant the average had more than doubled since 1970.

New agreements negotiated last year run into 1981, so labor cost increases for the period are fairly predictable. They will also be large: While basic (pattern) wage boosts are relatively small (in percentage terms), cost-of-living protection is generous, and when all wage and benefit increases are included, the package averages out to about 10% per year over a 39-month period beginning Jan. 1 of last year.

With labor expenses going up by that much, it follows that freight rates will also be going up again and, perhaps, again—at a time when shippers are pleading with the carriers to get their costs under control and warning of what may happen in terms of traffic diversion if costs and rates cannot somehow be reined-in.

Railroads' labor-cost options, however, would apear to be somewhat limited, as usual. Within the restrictions of job-security/stabilization agreements, they can try to get the job done with fewer people—and they can try to work out new agreements, especially with the operating organizations, to modify the rules of the game.



Labor costs are going up again. Will labor's leaders see the need for working out rules-relief agreements?

That—modifying the rules—brings up the subject of work rules and, especially, the subject of those agreements negotiated last year with the United Transportation Union on crew-consist.

● **Differences: Big ones.** Agreements with the UTU were signed, first, by Milwaukee Road, then by Conrail and then by Canadian National for its western regions. Terms agreed to by bankrupt Milwaukee and troubled Conrail don't differ much—but the terms worked out by CN and UTU in Canada are something else again, something most U.S. roads would much prefer to use as a pattern, if, indeed, there is going to be a pattern. UTU, however, has other thoughts: Its reaction to the CN agreement was, among other things, the dispatching of a letter of instructions from President Al H. Chesser to vice presidents and general chairmen, telling them that if they were going to negotiate crew-consist agreements, those agreements had better conform to the general Milwaukee-Conrail pattern, not to the one established in Canada.

All three agreements amounted to UTU recognition of the obvious, that it's not always necessary to use a road-freight or yard crew consisting of conductor and two brakemen or foreman and two helpers. For the two U.S. roads, however, there were train-length limits, with one-and-one operation permitted on trains of up to 70 cars, one-and-one permissable if negotiated on trains of 71 to 120 cars, and one-and-two mandatory on longer trains.

Then came the economic factors, and it is here that the U.S. and Canadian agreements really parted company. Milwaukee Road and Conrail agreed to pay train-crew personnel an additional $4 per assignment worked with a reduced crew (this payment subject to escalation), and they agreed to put $48.25 into a special fund for each such reduced-crew operation (this payment not subject to escalation) with the fund to be divided up among protected employees on the basis of assignments worked. There were limits set as to how much each employee could get, limits pegged to a percentage of the employee's annual earnings, and both Milwaukee and CR said there was what amounted to a cap—that eventually there would be no more "protected" employees and eventually the payment fund would self-liquidate.

Labor relations officers on other roads weren't so sure, and they found the short-term sharing of savings weighted too heavily in favor of UTU people. Neither Milwaukee nor Conrail put a figure, publicly, on the savings split, but others were figuring that, for a while at least, something like three-fourths of the savings would be going to the employees.

Then came the CN-UTU agreement, and teeth really began to gnash, because that agreement provided that 25% of savings would go to employees and that at the end of 10 years the sharing obligation would end.

● **The employee's stake.** It's hard to say who was more appalled, U.S. labor-relations officers who were worried about the earlier precedents or U.S. UTU leadership. But that CN agreement was approved by a union vice president as well as by the general chairman, and UTU does (at least when it seems appropriate) make a big thing out of democracy and autonomy and so forth. So UTU couldn't do much but swallow hard, while it pondered the possible implications of the CN pact and read what the general chairman had to say about it.

UTU (and other unions) are fond of talking about "our industry" and in fact it often is an "our-industry" situation when management and labor can unite against a common foe. But what CN's UTU general chairman had to say was just a bit out of the ordinary, a bit different in that he recognized the relationship between the employer's health and the employee's well-being—(and this, remember, on a nationalized railroad). It has been printed before in *Railway Age,* but read it again: "Over the long term," said General Chairman Harvey Burnett, "the financial viability of CN is of more importance to employees than to anyone else."

What happens next, in this country, is anybody's guess. But two things seem clear. One is that other U.S. roads negotiating crew-consist agreements are going to try awfully hard to get something closer to the CN than to Milwaukee or Conrail. And the second is that UTU is going to try just as hard to make sure that the CN precedent does not make a successful border crossing.

● **NW, BRAC, and . . .** Then there is the fallout from last year's BRAC strike against NW to consider.

BRAC went out July 10 in a local dispute, but over issues in dispute "locally" on a number of roads; NW was hit because in its case the dispute had gone far enough that it could legally be hit.

What happened next must have surprised a lot of people, in management and in rail labor: NW kept right on operating and, in fact was coming on strong when the walkout finally ended in September.

In the meantime, however, BRAC spread the strike—first indicating that it was hitting roads interchanging with NW and then going full-bore against roads participating in the service-interruption insurance plan, a plan that was pumping funds into NW (even as the Railroad Unemployment Insurance Act was delivering to strikers and those refusing to cross BRAC's picket lines, but also even as other unions were deaf to BRAC's hints that it could use financial aid).

In the court cases that resulted, the legality of the strike-insurance plan was not in question; its legality had been settled back in the 1960s when lower courts upheld it and the U.S. Supreme Court declined to review those decisions. This time around, the issue was whether a union could strike other roads merely because they were party to the program; and just as lower courts had ruled in favor of the carriers in the '60s and the Supreme Court stayed out, lower courts this time ruled in favor of the union and the Supreme Court stayed out.

BRAC thought it had a triumph of a real sort. As one union officer put it, for all practical purposes the union had destroyed the plan: Not only were other roads being forced to pay premiums that were converted into benefits to a struck carrier, BRAC reasoned, but those other roads were also opening themselves up to strikes because of their participation.

Regardless of whether the courts were right, BRAC had a point: In fact, there did have to be a question raised as to how enthusiastic other roads' support for a struck brother would be, if support meant that they might also be hit and especially if the individual-road issue involved was one on which a secondarily-struck road had already settled.

Yet to be determined, though, is the meaning of what NW did—which was to go right on running trains and increasing service to both merchandise and coal shippers as the walkout wore on.

● **Farther along . . .** What about the long-term future?

First, the certainty: Labor costs are going up again, and they're going to continue to go up.

Then, the to-be-hoped-for: Labor's leaders are going to recognize the need—make that "necessity"—for working out rules-relief agreements, as has been done most notably in Canada. These agreements have to be worked out, not just in the name of cost-reduction but also in the name of service-improvement, which will pyramid into more business, which will produce more jobs, et cetera. Labor has to take a chance. If it doesn't, it could find itself negotiating, in its usual fragmented fashion, with government.■

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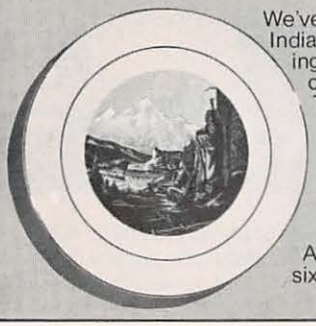

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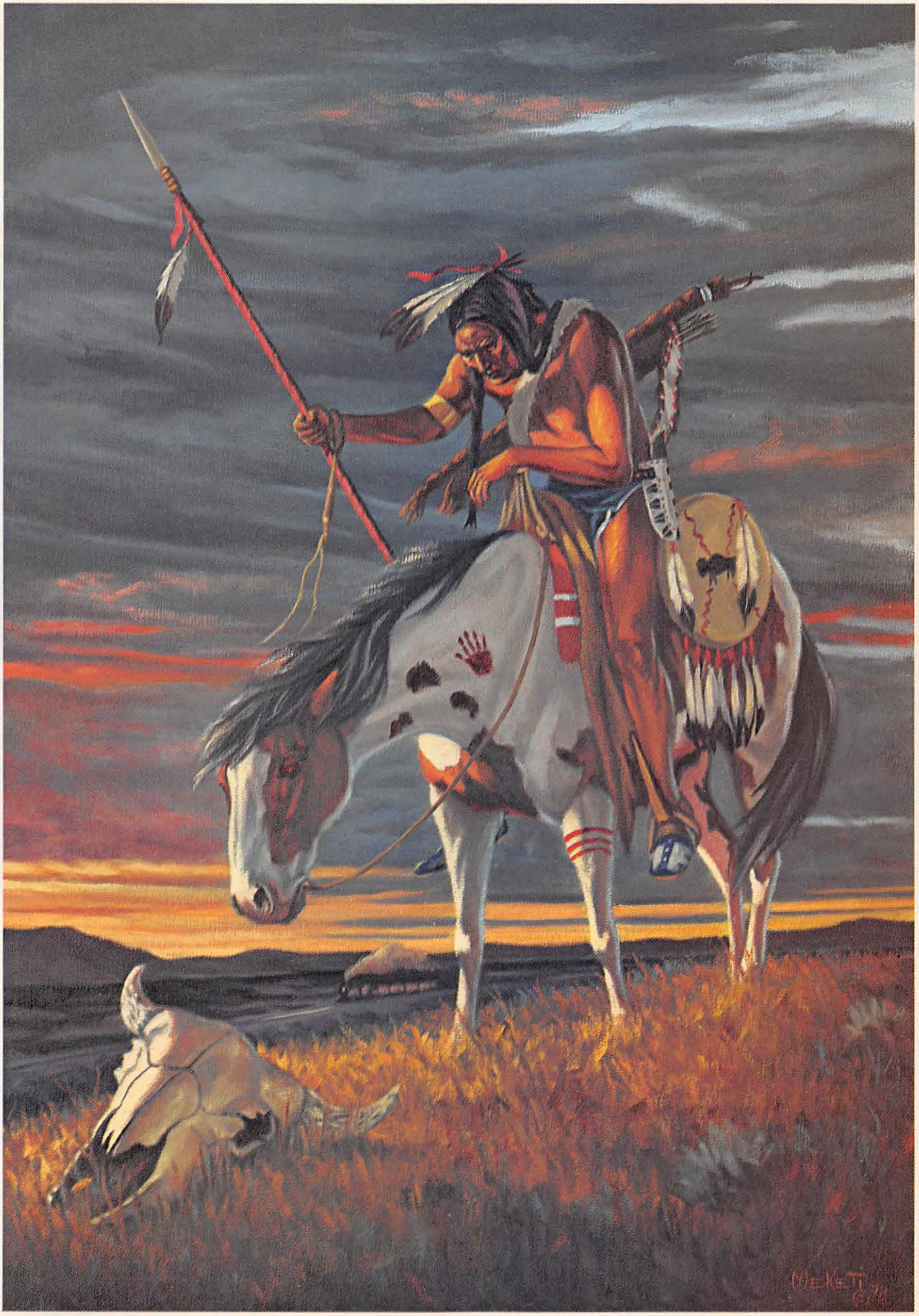

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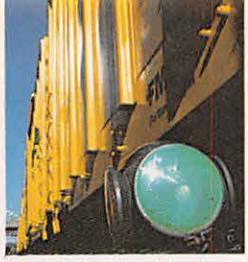
End of the Trail

Original oil painting by M. Meketi



'79 Freight-cars

For builders, a good year—and it could

By LUTHER S. MILLER, Editor

FMC Corp.

A freight-car builder recently described 1978 as "a wild and wooly but mostly wonderful" year. Asked how he thought 1979 would shape up, he sighed and said, "Who knows? It's going to be a very good year, but how good depends on a course of events that only a madman would try to predict at this time."

Calendar 1978 was, indeed, a "mostly wonderful" year for the carbuilding industry. Builders went into the year nurturing hopes that 68,000 new cars would be placed on order. As it turned out that figure was reached within a few months, and by Dec. 31, orders had sailed past the 120,000 mark. (By one builder's estimate, another 20,000 orders were firmed up late in 1978 but won't officially go onto the order books until this year.) Production of new cars in 1978, originally estimated at 55,000, actually totaled around 68,000. At year-end, the backlog of cars on order and undelivered was a fat 90,000-plus.

It was an unexpectedly steep increase in purchasing by other-than-Class I railroads —private investors, car-leasing companies, and utilities and other shippers— that caused car orders last year to take off like a rocket. Itel alone, which supplies cars to 30-odd owned or cooperating short lines and is also big in leasing, ordered more than 20,000 cars last year to become the industry's biggest single purchaser.

How about 1979?

There is general agreement that the 1978 pace of ordering will not be maintained, though it will probably continue to be higher than the average of recent years. Forecasts of new orders this year range from a low of 55,000 cars to a high of around 80,000.

● **Booked solid.** Right now, the builders are not deeply worried about the level of new orders placed in the immediate future. Most production lines are booked solidly for the next 18 to 24 months. Even if there are some cancellations, which is possible as the cost of money rises and as prospects of a mild-to-moderate recession continue to cloud the horizon, there are a sufficient number of firm orders to insure capacity production for months to come.

Some builders would, in fact, welcome a cooling off of the market. One manufacturer just a few weeks ago refused to consider an order for delivery in 1982, worrying that any cost-escalation clause written into a contract today might be out of line with actual costs three years from now.

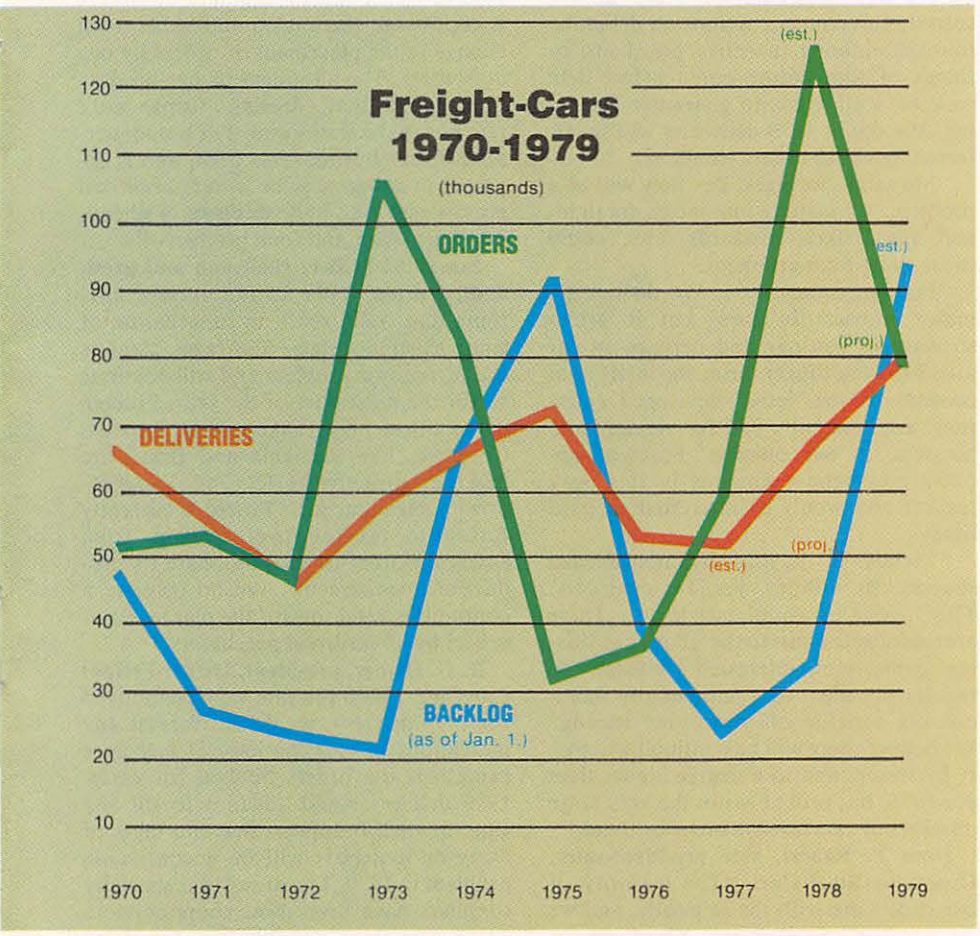
Railway Age's estimate, based on extensive interviews with both buyers and builders, is that 78,000 new cars will be ordered in 1979.

As for 1979 deliveries, estimates also vary widely, from a low of 70,000 cars to a high generally in the neighborhood of 85,000 (although some optimists foresee that as many as 100,000 cars could be built, given ideal conditions).

● **Key factor: Castings.** The 1979 production level depends to a large degree on the availability of castings, particularly side frames and bolsters. These are already in short supply. Wheel shortages are beginning to show up, and couplers and roller bearings could be next on the shortfall list.

It is not clear just how many carsets of castings U.S. foundries will be able to produce this year. A survey made by the Railway Progress Institute last August indicated a domestic production capacity of 77,650 carsets of castings annually; that was expected to rise to 84,100 early in 1979 with the addition of two new foundries. But it must be borne in mind that these are "ideal-condition" estimates prepared by suppliers anxious to dispel any notion that they cannot measure up to the need. One major castings supplier told *Railway Age* early in 1979 that a more realistic estimate of domestic pro-

be a great one



duction this year would be 72,000 carsets —and most carbuilders have estimates that are more conservative than that.

It is not clear, either, how many carsets of castings may be imported this year. Some sources put the figure as high as 15,000; others feel that about half that number is a more realistic guess, since a number of foreign foundries seeking U.S. business are still in the process of winning AAR approval.

Railway Age is forecasting delivery of up to 80,000 new cars this year, with 7,000 to 10,000 carsets of castings coming from offshore. Strikes and other hard-to-forecast acts of man and God could bring this down into the 70,000-75,000-car range. The 1979 freight car will cost 9-10% more than its 1978 counterpart.

● **Offshore sources.** Castings are now coming into the U.S. from half a dozen or more offshore sources. Two South African companies, Scaw and Standard Iron, are reported to have committed their entire production for two years to a single broker in the New York area. Mexico's Constructora Nacional de Carros de Ferrocarril is shipping castings to a U.S. carbuilder that reportedly has told the Mexican company (as well as one of its U.S. suppliers) that it will pay a premium of 10% above the bid of any other builder. Two companies in Australia—Bradford Kendall and Commonwealth Steel—have several foundries that want to produce castings for the U.S. market, but not all of them have yet passed the dynamic testing required by the AAR. Canadian castings have been crossing the border for many months, but that supply will dwindle as the Canadian government embarks on a new grain-car building program. Meanwhile, foundries in Rumania, Japan, and Brazil are among those that have requests for AAR approval still pending.

Will this "foreign invasion" of U.S. markets extend beyond castings? It already has, in a small way. Constructora, the Mexican carbuilder, picked up at least 1,600 orders in the U.S. last year. And after many months of trying, Rumania, through Mecanoexportimport of Bucharest, is making a dent in the market. At Wilmington, Del., Mechtron Industries is putting together 500 covered hoppers for North American Car, and the carbodies are coming from Rumania. Two more orders will be placed in 1979, and these will have castings, as well, from Rumania, assuming AAR approval is granted. Meanwhile, Richmond Tank Car in Texas is reported to be assembling hoppers for Itel from Rumanian kits.

While most U.S. carbuilders do not see great numbers of whole cars coming into the U.S. from abroad (see below), one major U.S. purchaser—North American—is keenly interested in offshore sources.

North American added 2,800 cars to its full-service lease fleet in 1978 and will purchase or assemble 6,100 cars in 1979 at a cost of around $235 million. James H. Ozanne, president of North American, recently responded to a *Railway Age* question on offshore procurement in the following words:

"Foreign competition is going to force the railroad supply industry in the United States to become more efficient. As you know, North American Car Corp. and several railroads purchased railcars from Mexico in 1978. The equipment produced in Mexico is equal in quality to that produced by domestic suppliers and priced competitively. The imposition of import duty on railcars imported from Mexico has now made this source uncompetitive economically for 1979. The net effect of the loss of Mexico as a viable source of railcars is felt most by the railroads and rail shippers. However, other foreign sources, of equal quality and lower price, are beginning to penetrate the U.S. marketplace. In the final analysis, the railroad industry will benefit. In 1979, 30% of North American's new-car pur-

chases will come from foreign sources. In summary, foreign competition may be a problem to the railcar manufacturer, but it represents an opportunity to the railroads and rail shippers."

Meanwhile, reports persist that a group of investors headquartered in Atlanta, Ga., has raised $1 billion to purchase 20,000 to 25,000 freight cars, and is negotiating with the French firm of Franco-Belge as the potential supplier. By one report, these cars would actually be assembled in a less-developed country to avoid high tariffs. ■

How suppliers size up '79

Railway Age asked a number of key carbuilders and component suppliers for their comments on the freight-car market in 1979, with respect, particularly, to possible cancellations, material shortages, the influence of nonrailroad purchasing on the market, and the prospects for increased foreign competition. Here is a sampling of their replies:

Henry A. Correa, president, ACF Industries: "I do not foresee any major cancellations . . . I believe that, industry-wide, the orders that are now placed for 1979 will be delivered. I do see a problem with parts and material shortages, particularly side frames and bolsters and other foundry products. . . .

"Foreign competition will not be a problem at this time. This is an important point, because the carbuilding industry has always had a feast or famine situation. If the railroads allow the industry to operate at a steady pace throughout several years, it may eliminate this problem and allow the railroads to acquire equipment at a lower cost. . . .

"I believe the trend toward placement of orders by nonrailroad purchasers will continue. The railroad industry is very capital intensive, and it does make sense for the railroads to invest their capital in motive power and right-of-way and allow others to supply the rolling stock necessary for their operations."

R. L. Duchossois, president, Thrall Car: "Almost all carbuilders have full backlogs for 1979 and many into 1980. It would appear as though our industry will have two years of full production. The majority of the cars on backlog are for leasing companies and private ownership . . . Because of the nature of the backlogs, we do not see much possibility of cancellations, but we do feel there will be a shortage of some parts. This feeling is not based completely upon the increasing production of the carbuilders, but upon general labor conditions in 1979 and 1980, when many labor contracts are to be renewed. . . .

"I do not necessarily see foreign competition as a major threat at this time unless Congress reduces tariff barriers. If this happens, I can foresee substantial trouble within our industry in the period after 1980."

B. C. Jameson, senior vice president, PACCAR: "Cancellation of existing orders: Yes, we think this could happen. If a recession starts, it will happen. We believe the leasing company orders are the softest. Government actions on deregulation, eliminating incentive per diem, or things of that nature could affect debt sources' willingness to guarantee financing. We doubt 1979 deliveries will be affected, but 1980 orders would be.

"Material shortages: Yes, they will be a problem. All major components are tight, and any strikes, blizzards, etc., could cause short-term problems.

"Foreign competition: We do not see major impacts in cars, but it grows stronger in castings and perhaps in car kits. Looking longer term, the tariff concessions to the 'lesser developed countries' are inherently bad for vendors and builders, in our opinion. Foreign suppliers command premiums in this peak market and won't be interested in hard times.

"Trends in buying by nonrailroad sources: By utilities, yes, for coal cars. This 'leaser invasion' puzzles us. There are reasonable limits to the 'short-line leasing' game. How interested are leasers in regular per diem cars without the financial tax benefits of 'short-line' leasing? We believe there will be continuing activity by leasers and to a degree higher than pre-1976, but probably not the very large numbers of cars now on order by them."

John T. Egbert, vice president-sales, Greenville Steel Car: "The majority of our orders are with the railroads, and we do not see cancellations. Shortages of castings and material will continue to be a problem during the first half of 1979, but we only expect minimal down time. We anticipate that foreign competition may be greater by 1979, but we are continuously reviewing cost-cutting programs and endeavoring to be competitive in the marketplace at all times."

M. D. Post, manager news media, Bethlehem Steel: "We do not anticipate any cancellations of existing 1979 freight-car orders, as our order books are primarily composed of orders from regular customers in quantities comparable to their historical purchases. Shortages of components will probably exist from time to time. Foreign competition of completed freight cars has not been a significant problem to date. We do expect freight-car purchases by utilities, private industry, and car-leasing companies to be a significant factor in years ahead."

F. W. Horner, president, General American: "Our principal concern for shortages is limited to the general area of castings, and specifically to couplers. As a result of federal regulations requiring alterations to certain existing tank cars, the demand for castings has increased and consequently encroached on the normal supply assignable for new-car construction. Foreign competition has not been, and is not expected to be, of any consequence in our largely domestic market. Insofar as the rail car segment of GATX is concerned, there is no noticeable trend change in the placement of orders by our customers. The allotment of our production to utilities, leasing firms, etc., remains in the status quo. The preponderance of our business has been, and is expected to continue to be with nonrailroad purchasers, i.e., bulk shippers of chemical, petroleum, and food products."

James A. Miller, chairman and president, Portec: "We do not foresee anything that could result in cancellation of some existing orders. Shortages of parts are currently a problem and will continue so for the remainder of the year. Foreign competition may make minor inroads. Countries like Rumania and Brazil are making attractive offers of knocked-down freight car kits. Portec is currently forced to procure steel castings from foreign sources to accommodate its production requirements. We do perceive a continuing trend toward the placement of orders by nonrailroad purchasers.

R. C. Ortner, president, Ortner Freight Car Co.: "With the cars we have booked for 1979 delivery, we do not foresee any indications of cancellations. If any were cancelled, the orders booked for early-1980 delivery could advance to fill any gaps created. It appears that shortages of parts or materials will be a continuing problem in 1979. I must say that specialty suppliers have been most cooperative in doing everything possible to get parts to the shops in time."

Richard J. Quilter, manager transportation sales, Standard Steel: "High interest rates could have some effect on new orders and maybe even generate a few cancellations after midyear. Side frames and bolsters continue to be a critical area. We do not look for any serious shortage of wheels and axles. Mounted wheel assemblies for those carbuilders who do not have their own wheel/axle facilities may be difficult to maintain. Finished machined axles could be tight also.

"Foreign competition continues to be a serious threat in the wheel business. 1978 will probably be the biggest year foreign suppliers have enjoyed so far. We have been besieging the Treasury people to impose trigger prices on wheels and axles and also reinstate import duties. We expect worldwide competition, but feel

(Continued on page 85)

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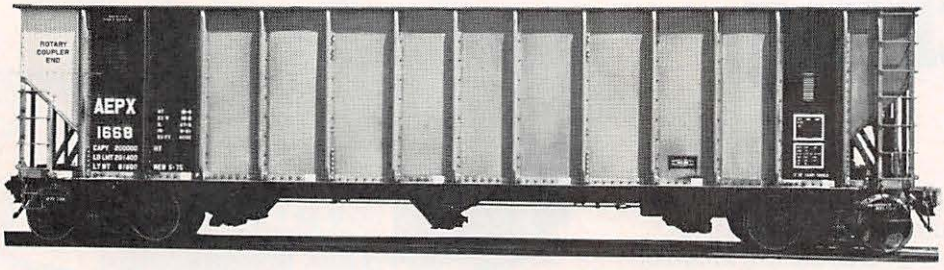

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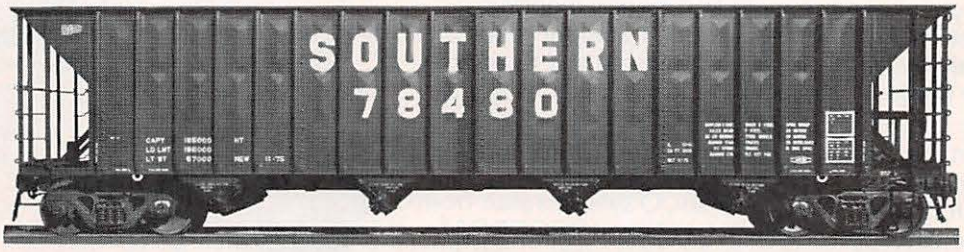

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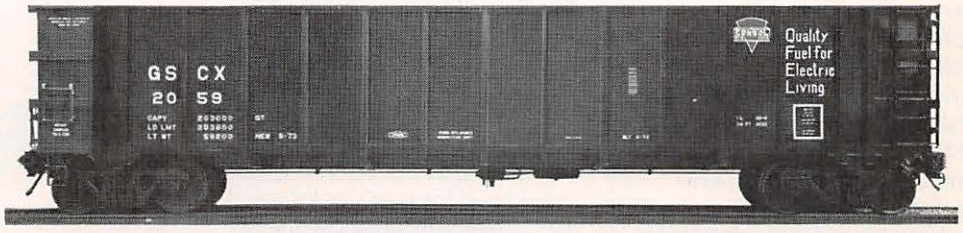

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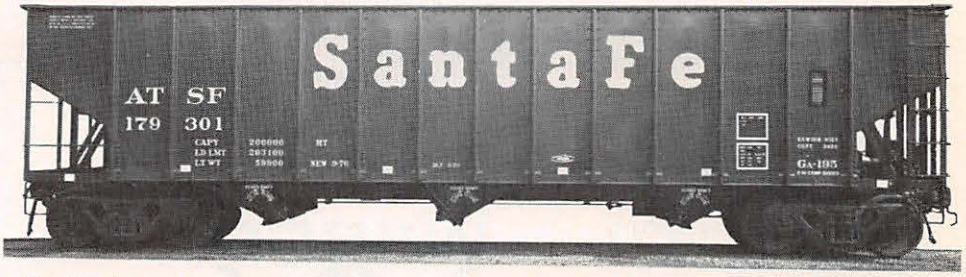

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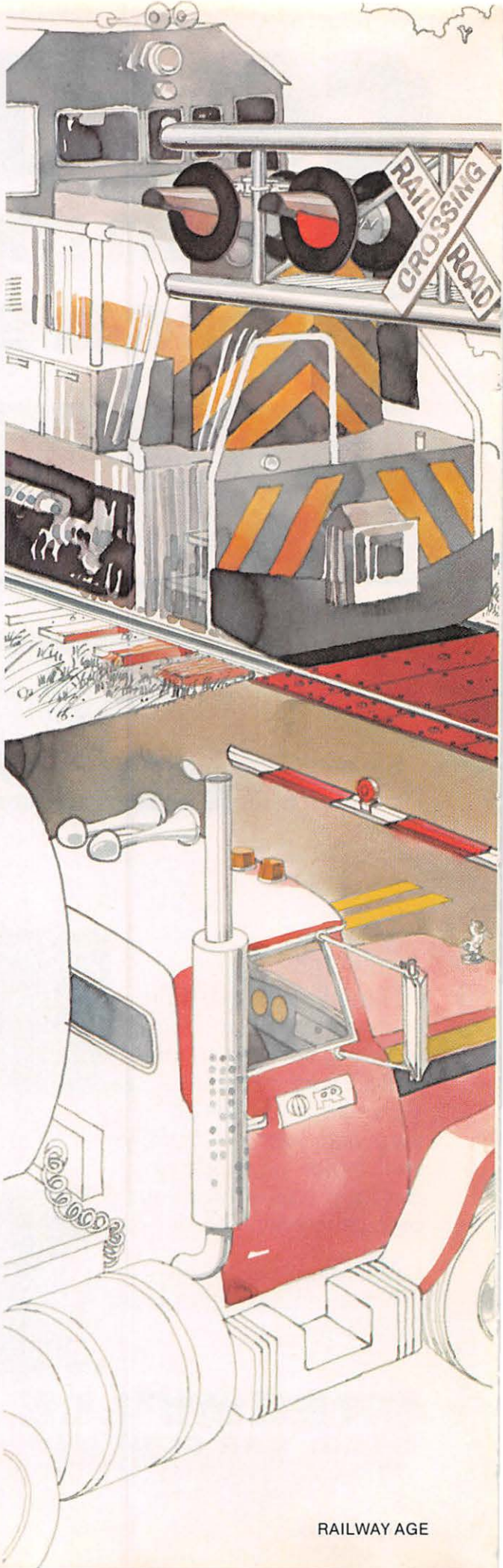

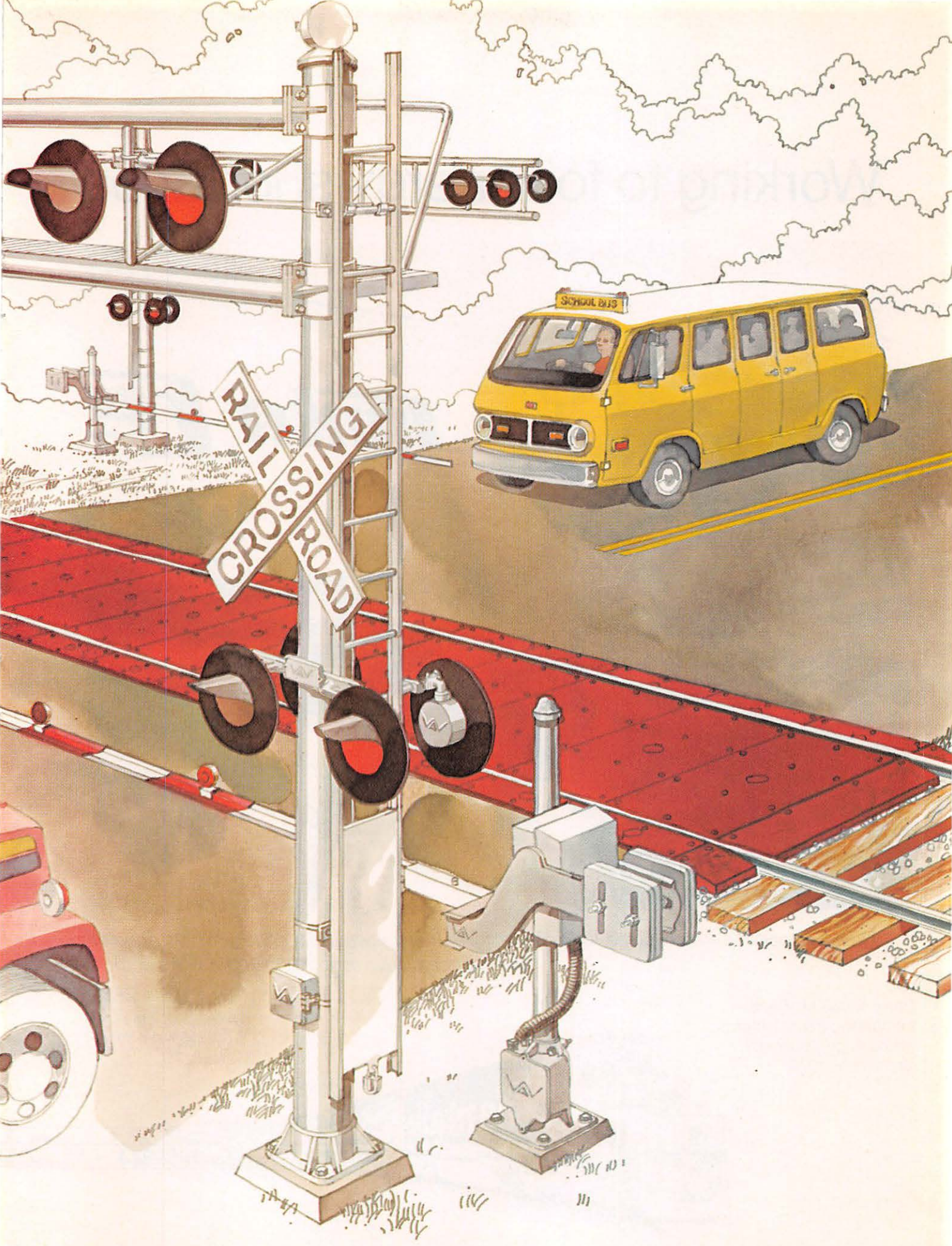
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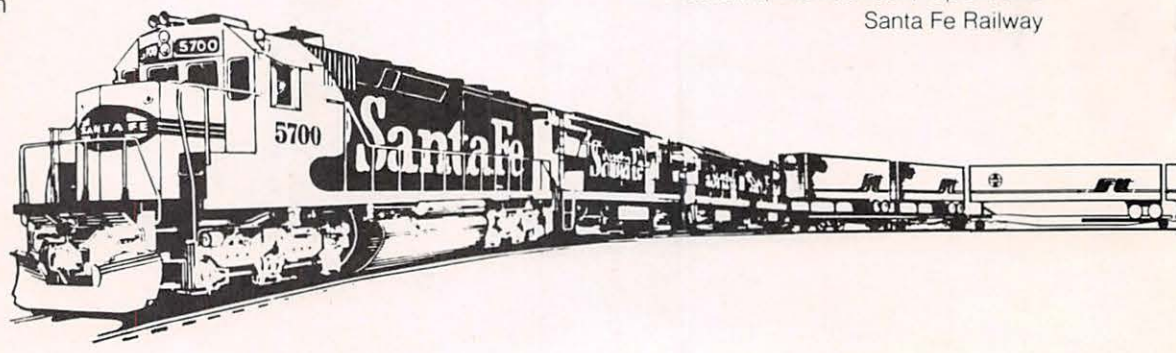

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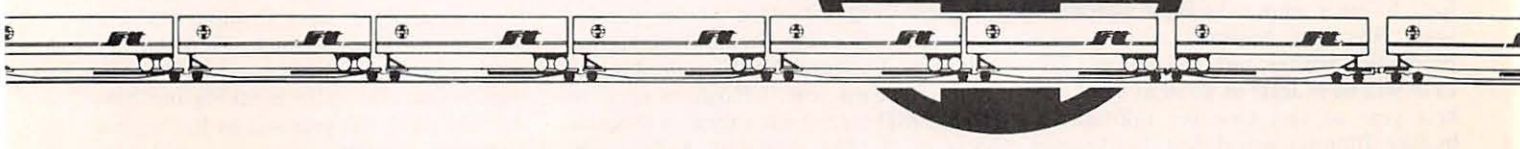

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'79 Locomotives

Output, deliveries, fuel economy: Going up

By FRANK MALONE
Associate Editor

For locomotive supply, it seems, one good story deserves another. This year, builders should have two good tales to tell. First, of course, is production: Output of new locomotives is expected to rise sharply for the third year in a row, and the flow of rebuilt units should continue at a high rate. Second, and perhaps more important, is fuel economy: Testing of three new road locomotives and one switcher, for which builders are claiming impressive fuel savings, will continue this year; also, one builder will start producing a more efficient engine while another is phasing in an improved turbocharger.

As for production of new units in 1979, builders are unanimous in their optimism. The biggest, Electro-Motive, looks for a record year in which output could go as high as 1,300 units, or as much as 30% above EMD's 1978 output. That would just about equal the estimated total of new and rebuilt units delivered to U.S. roads last year by all builders and rebuilders.

General Electric expects production to be up 20% to 25% over 1978; based on a 1978 figure of 500 units, that would mean 1979 output of 600 to 625 new locomotives.

MLW Industries of Canada expects solid improvement over the past two years, when labor problems kept production down. That means a 1979 output of more than 50 units, with steady growth in sight. The Diesel Division of General Motors of Canada sees its 1978 output of 89 units being solidly surpassed in 1979.

Among locomotive rebuilders, Morrison-Knudsen expects a 1979 output of at least 50 units, about the same as for last year. Precision National won't reveal production figures, but the company says 1979 will be at least as good as 1978, the best year so far. One big railroad rebuilder, Illinois Central Gulf, has 52 units scheduled for remanufacture for itself, about double the 1978 figure, though this year it will do less work for other roads.

● **Over the '72 peak?** Discounting export units in builders' production forecasts and counting orders expected to be filled this year, 1979 deliveries of new diesel-electric locomotives to U.S. railroads should be close to 1,600 units, nearly 38% over the estimated 1978 total of 1,160. That would mean an impressive gain over the most recent peak year, 1972, when 1,377 new units were delivered. And it would mean a continuation of the trend of the past two years: 1978 deliveries of new units were up 45% over 1977, and 1977 deliveries were up 39% over 1976, the worst year for new-locomotive production in the 1968-78 period.

Installations of rebuilt locomotives will continue at a slightly faster rate than in 1978, when about 140 were turned out (after 199 in 1977 and 184 in 1976). More than 150 rebuilt units are expected to be delivered in 1979.

Together, new and rebuilt units should account for a substantial increase in overall installations above the estimated 1978 total of 1,300. Retirements may mean a small net gain in units, but total horsepower will continue to rise. The estimated total of diesel locomotives in service at the end of 1978 was 27,400, down about 50 units from the end of 1977, but aggregate horsepower grew by 3,000,000 to an estimated total of 59,900,000.

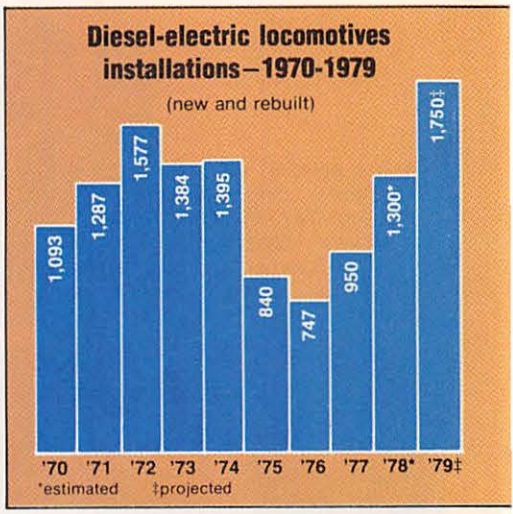
● **Higher production rates.** To meet this year's surging demand, builders plan to increase production rates. In January, EMD's rate rose to five locomotives a day, after a 1978 peak of 4.5 per day. And, says Peter K. Hoglund, General Motors vice president and EMD general manager, "We're looking to go higher." That may happen about midyear, through some extension of the current two-shift, five-day-a-week production schedule. The result? "We're looking at another record year," Hoglund says. In 1978, EMD turned out a total of 996 new locomotives. This year, with the five-unit-per-day schedule already under way and the expected increase later in the year, production could total between 1,275 and 1,300 units.

Warren A. Fox, EMD director of sales and service, adds that the record output will be due in part to increased export business, which was already on the rise in 1978.

GE, too, says it is ready for higher demand. As a spokesman puts it: "We're forecasting another strong year for orders in 1979, and deliveries will be up in the area of 20% to 25% over 1978. Production rates have been adjusted to meet this demand." Last year's production exceeded earlier expectations, and GE says it was able to adjust for a 20% increase in deliveries over 1977.

MLW, after losing five months' production in 1977 because of a strike and further production problems last year, believes it is ready for solid production in 1979. Colin M. Dathan, manager of locomotive sales, says: "Internationally, the activity certainly increased toward the end of last year, and we see that continuing. It looks like quite a strong year, worldwide." MLW's U.S. market was "quiet" last year, and Dathan sees that continuing, though he adds that MLW is "looking at it closely." The company's 1979 deliveries are expected to total at least 53 units, including two LRC locomotive units for Amtrak, to be followed by a surge to at least 94 deliveries in 1980. "Things are definitely looking up," Dathan says.

A review of orders for 1979 for some big railroads quickly shows why MLW is "looking closely" at the U.S. market. Leading the list is Conrail, which expects delivery of 265 new units this year, from both EMD and GE, after 1978 deliveries totaling 217 new units. With 1979 deliveries, Conrail will have acquired 653 new locomotives since April 1, 1976, but its needs will remain high as it struggles to improve service. Also breaking the 200-delivery mark this year will be Burlington Northern, expecting to receive 202 new locomotives from EMD and GE, after acquiring 176 new units in '78. Family



EMD's GP40X diesel-electric (above) is one of 23 undergoing a two-year test on railroads. GE's experimental 3,000-hp B30-7 (below) is also undergoing tests. Both builders are working with the railroads to improve the fuel efficiency of their locomotives.

Lines will be another big 1979 locomotive acquirer, with 189 new units expected, many of them for Louisville & Nashville coal service.

Other big 1979 deliveries will include: Southern Pacific, 160 new units; Union Pacific, 150; Santa Fe, 141; Missouri Pacific, 100; Southern, 71; and Chessie, 70. For most of those railroads, 1979 deliveries will equal or surpass those for 1978. Another big road, Norfolk & Western, expects to receive 46 new GE units this year, after delivery of 34 such units last year. Among smaller railroads, Frisco expects 29 new locomotives this year; Grand Trunk Western received 20 new units in one batch in early January; Soo Line will get 20; and Rock Island expects 35, bankruptcy court willing.

● **Fuel savers.** In 1979, Kansas City Southern will take delivery of six new EMD units, including four experimental 6-axle SD40X's. Basically the same as the 23 GP40X units undergoing a two-year test on other railroads, the new KCS units will represent yet another phase of the fast-growing competition among builders to supply locomotives providing more power while consuming less fuel. The 3,500-hp EMD 40X will go into production in late 1980, if tests are favorable, and start of such production would herald EMD's third generation of locomotives. The company fully expects the testing to warrant a go-ahead with production; says EMD's Fox: "We're very pleased with how they're performing."

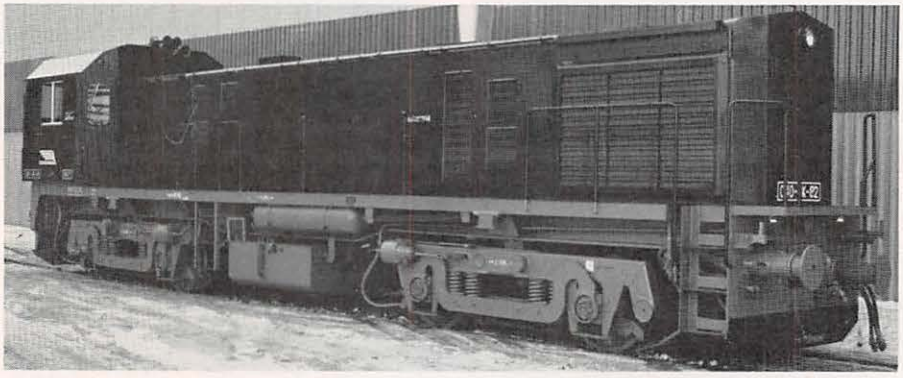
Just as pleased with its experimental model, the 2,800-hp TE70-4S, is Morrison-Knudsen. Four of its Sulzer-engine units (RA, Mar. 13, 1978, p. 21) are in head-to-head competition with the GP40X's and four experimental GE 3,000-hp B30-7 units on Southern Pacific. An SP spokesman said in early January that the railroad would have something to say about the tests "in about 60 days." Meanwhile, M-K has been happy with the TE70-4S's fuel consumption.

Dick Buchanan, M-K general sales manager, says, "I think we can say that the Sulzer engine is an excellent one from the fuel-economy standpoint. The other area that is different is the cooling package, the Behr system that we brought in from Germany. This has worked out quite well and has shown up best in tunnel operation. We're quite pleased with the performance of not only the engine but the cooling system as well."

However, testing is not likely to stop when the SP results are in. Joseph G. Fearon, M-K railroad division manager, says, "We've got to get the locomotive exposed to more service; it's got to have greater exposure and more testing on more properties before we know that it's going to be acceptable."

GE is refraining from any comments on its B30-7. However, a spokesman says, "Relative to fuel economy, we'll continue our already very substantial efforts to further improve the fuel efficiency of our locomotives, and we're working with the railroads to fight the fuel-inflation battle. The higher-efficiency GE turbocharger now being phased into production in the 12-cylinder C28-7 locomotive, which will

M-K's entry in the fuel-efficiency competition: 2,800-hp TE70-4S (right). MLW's 1,500/1,350-hp DL 536 (below): The Tunisian Railways took 20 in '78.



be available in 1979, is an example of the payoff of these efforts to reduce the railroads' and the nation's energy requirements."

Another GE example of energy efficiency is the 1,100-hp 4-axle, 136-ton switcher, of which four are now in experimental service in the U.S. (RA, May 30, 1977, p. 28). "As railroads gain more experience with the fuel and operational efficiency of these units," a GE spokesman says, "we expect growing acceptance, especially on the short lines and in dedicated switching service." Two of the units went into service at Chicago & North Western's Proviso Yard near Chicago last November, on a three-year lease with option to buy.

C&NW says fuel economy and greater tractive effort for the weight are the most important features of the new switch engines. Because the units' traction motors are permanently wired in parallel, they can pull more tonnage than equal-weight, single-engine locomotives with the more common series or series-parallel connections, but they do it at half the speed. C&NW says tests at Proviso showed that one GE unit could pull 5,100 tons at 6 mph. GE fuel-economy figures show that the switchers burn 32% less fuel at normal idle than 1,500-hp single-engine locomotives. There are two separate Cummins engines, so one can be shut down during idling, for a 66% fuel savings, GE says.

Then there is the GE BQ23-7, designed as much for crew economy as for fuel efficiency, with a cab large enough to hold a conductor (a desk is provided) and other crew members besides, of course, the engineer and head brakeman. The obvious purpose is to reduce the need for cabooses. A Family Lines spokesman says 10 such units are in service, but there has been a temporary diversion from areas where labor agreements allow all crewmen to ride the locomotive cab. As soon as 1979 deliveries of other new locomotives take place for Louisville & Nashville coal moves, the big-cab GE's will return to cabooseless train service.

● **A new engine from EMD.** Besides fielding its GP40X's, EMD will begin production in July of a more fuel-efficient version of its 645-E3 engine, for total possible annual fuel savings of 3.3% per locomotive, or as much as 13,200 gallons a year.

An EMD spokesman explains it as follows: "The 645-E3B model will have the same bore, stroke, rated output, and speed as the current 645-E3 series engine, but design changes have been incorporated that will improve fuel consumption, reliability, and performance. The E3B engine has improved thermal efficiency that will provide an annual 1.5% reduction in locomotive fuel consumption.

"In addition to the engine design changes, other improvements have been made to increase locomotive fuel economy. By reducing the engine idle speed from 315 rpm to 255 rpm whenever the locomotive is 'standing by,' an additional 0.7% fuel-consumption reduction can be made. On locomotives, a modification is available that will allow the controlling of dynamic brake engine speed, based on traction motor current, providing an additional 1.1% fuel saving.

"The improved thermal efficiency of the E3B engine coupled with the improvement achieved with the reduced idle speed and the controlled dynamic brake engine speed results in a 3.3% improvement in fuel consumption. This provides a yearly saving of 13,200 gallons of diesel fuel—6,000 gallons from engine improvement, 2,800 from low idle, and 4,400 from improved dynamic braking."

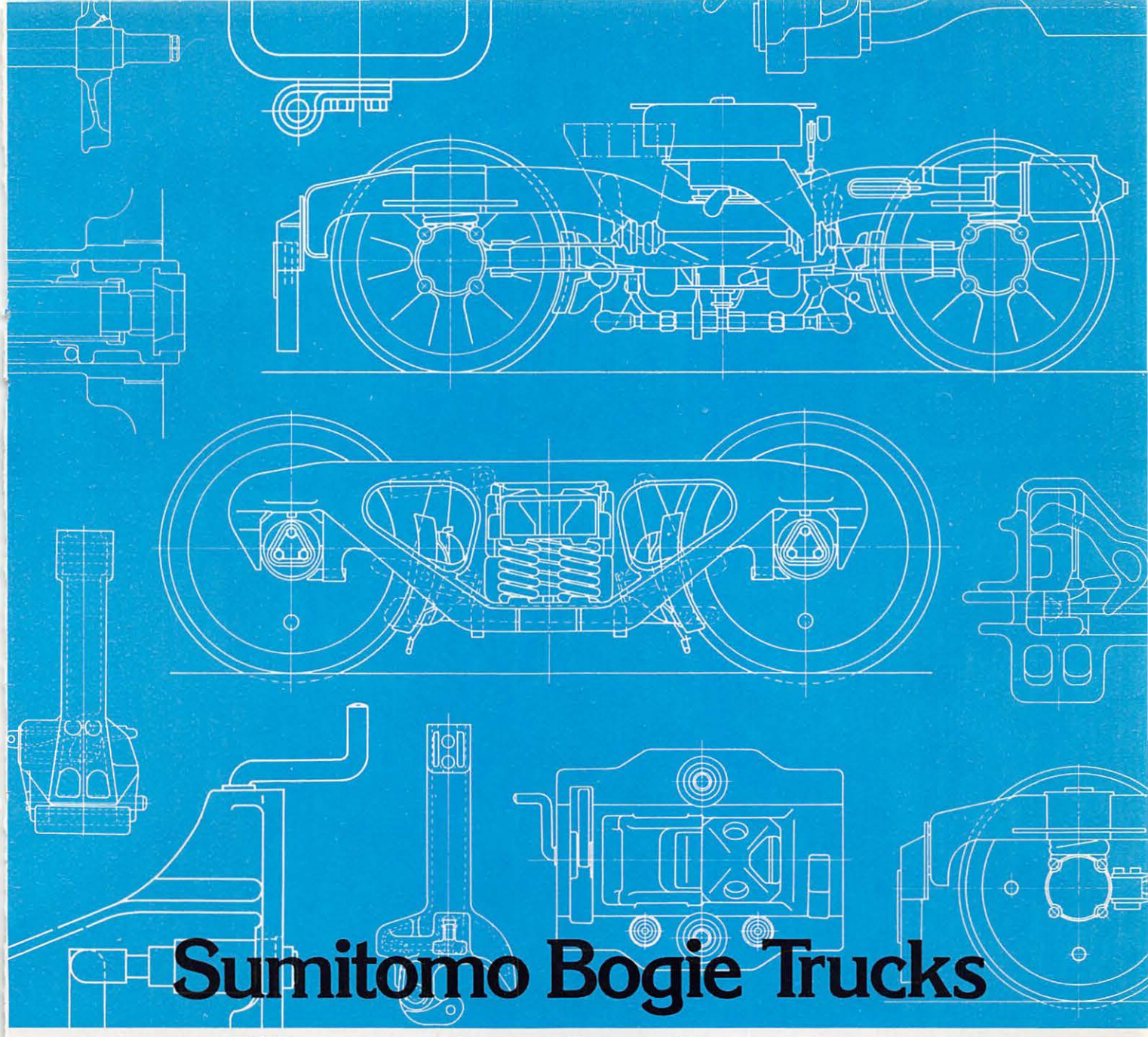
● **One road's shopping list.** Along with fuel savings, there are some other things that railroads, one in particular, might like to see. John Ingram, Rock Island president, puts it like this: "I think it's high time that the manufacturers of diesel locomotives learned how to build things that don't leak oil all over the place. Caterpillar seems to have learned how. Mercedes knows how. And I understand that even Cadillac has a diesel on the market now. I haven't seen one, but I suspect that the Cadillac diesel does *not* drip oil on the country club driveway. I for one am sick of locomotives that look like fugitives from an explosion at an oil refinery. . . . I want speed-recording devices—you could break with tradition and call them 'speedometers' if you like—that are built to be at least as accurate as those on the Ford Pintos. I want them to be easy enough for a vocational high school student to maintain and adjust, and I want them secure enough so they can't be tampered with by my friends who run locomotives. . . . I would like to see locomotives designed with modular subassemblies on skids; and I'm not talking about plug-in/plug-out gimmicks in the electrical compartment, although I think they're great. I'm talking about prime movers, generators, blowers, and other major components that nowadays require raising the roof before you can even start work."

Ingram's remarks reflect a continuing problem of locomotive maintenance costs per ton-mile of freight, an area where improvement would be as welcome as it is in fuel consumption. In view of past builder accomplishments, that shouldn't be too much to hope for.

In the meantime, EMD for one, is looking ahead bullishly and confidently, beyond 1980 for which orders are piling up rapidly as with other builders. Hoglund sees increased coal hauling in addition to a steady ton-mile growth in other areas as "a sizable factor" in continuing strong demand. He's encouraged also by what he views as greater Washington awareness of the rail industry's needs.

For the rebuilding outlook, there's this comment from M-K's Buchanan: "We're looking at the optimistic forecasting being done by railroads. There's a great deal of optimism for the future; it just looks pretty good. Railroads are going to be looking at a combination of performance and efficiency, trying to get the maintenance dollar down. Obviously, this is what's behind remanufacturing."

Performance and efficiency—those are two things the builders are looking at, too, as the ingredients for their enjoyment of 1979's boom, 1980's building-up boom, and beyond 1980 for as long as the good times last. ■



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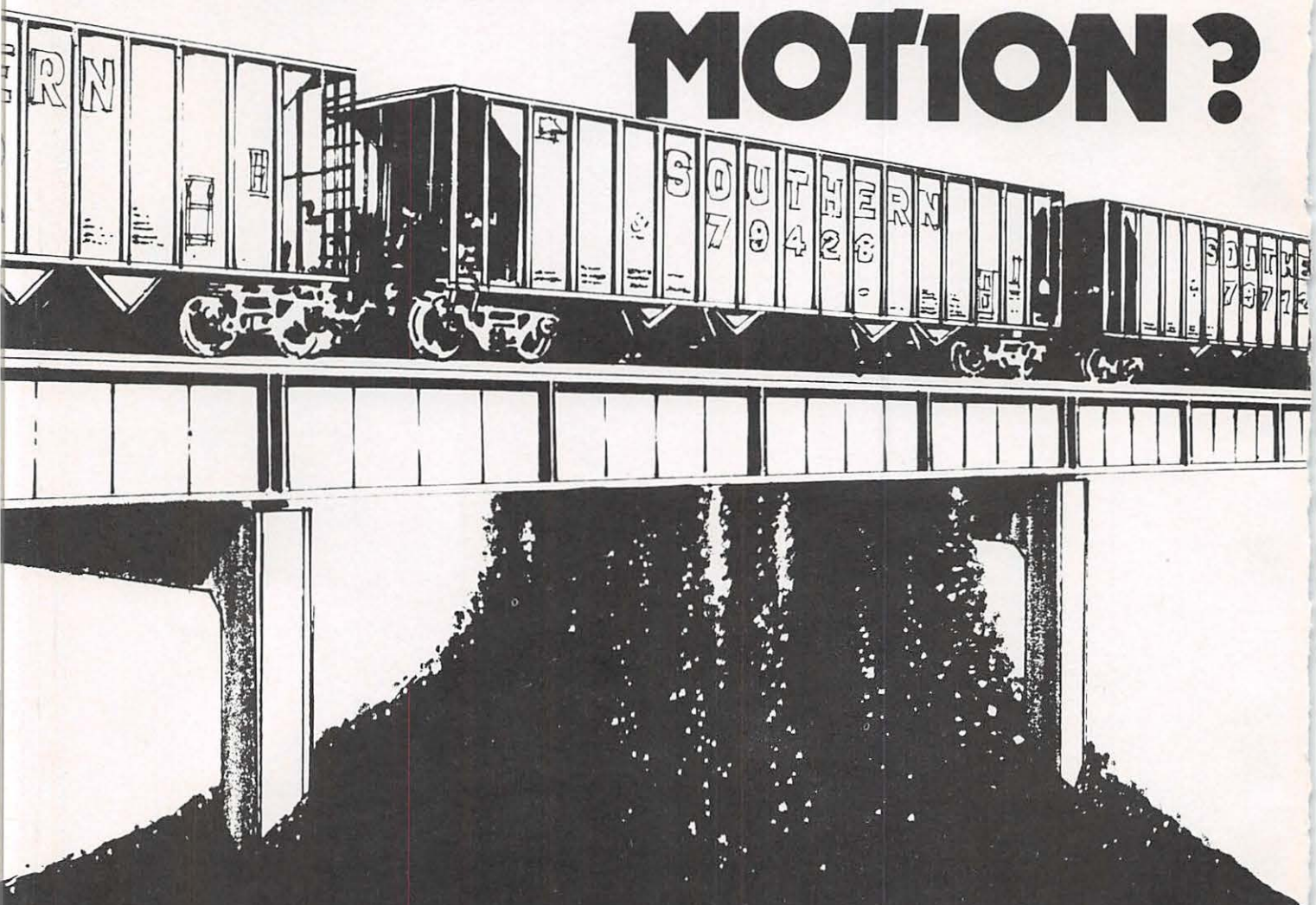

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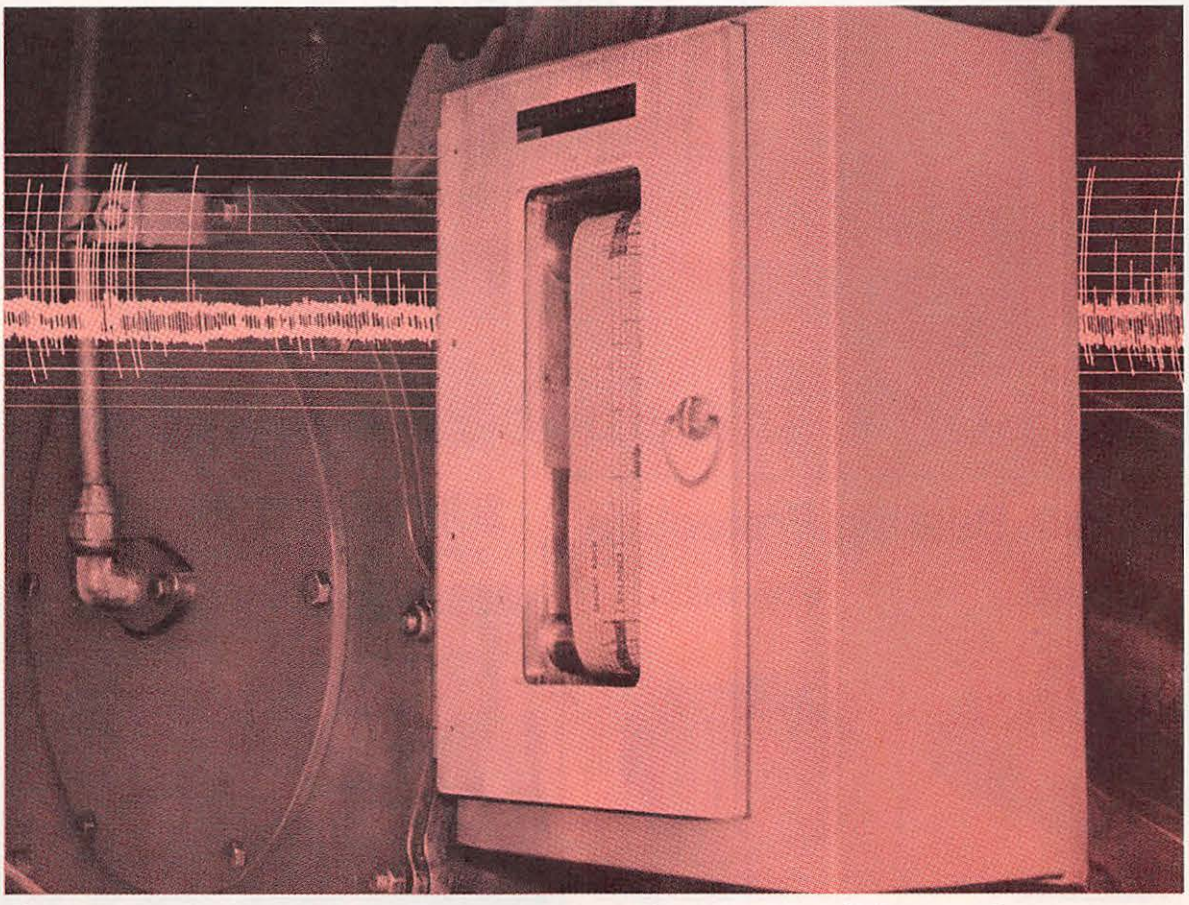

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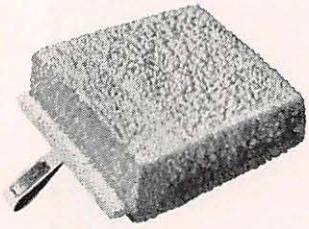

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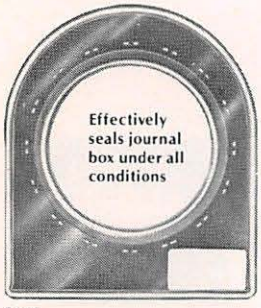

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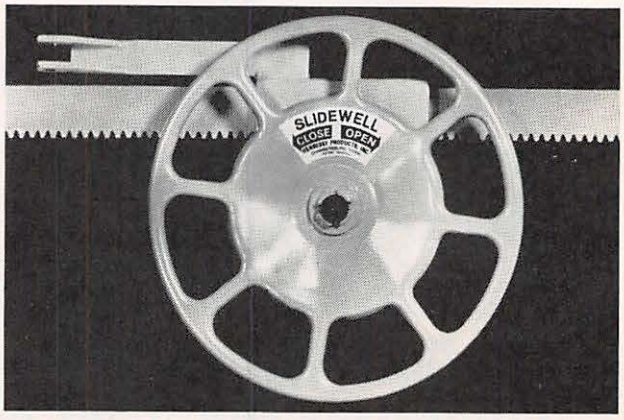

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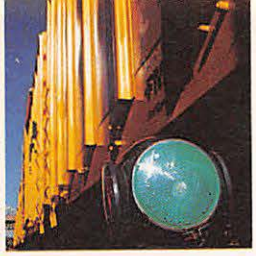


'79

Maintenance of way

Rail, tie renewals head for record high

By MERWIN H. DICK
Engineering Editor

During any given period in history, maintenance-of-way activities will be found to be tracing a zigzag course. Sometimes that course has been predominantly downward, as it was from the middle 'forties to the early 'sixties.

True to the zigzag pattern, overall m/w activity, as measured by rail and tie renewals, retreated somewhat last year, but it promises this year not only to regain the ground lost but to push into new high territory.

During each of the broad swings, the predominant trend reflects a combination of factors, which include the state of railroad business for the particular year and managerial policy regarding spending—particularly for upkeep of the fixed properties. These factors combined to produce the long period of declining spending, or retrenchment, that prevailed from the middle 'forties to the early 'sixties. The upward trend in m/w spending that got under way at the end of that period signaled the beginning of railroad efforts to restore some of the strength that had been drained from the properties, especially the tracks, during the long period of retrenchment.

● **Government projects add impetus.** Adding to the activities of the railroads themselves in this area are several government-sponsored or -funded programs, such as:

—The 10-year track rehabilitation program that is now in its fourth year on Conrail.

—The five-year, $1.75-billion Northeast Corridor Improvement Program, which is now entering its second year.

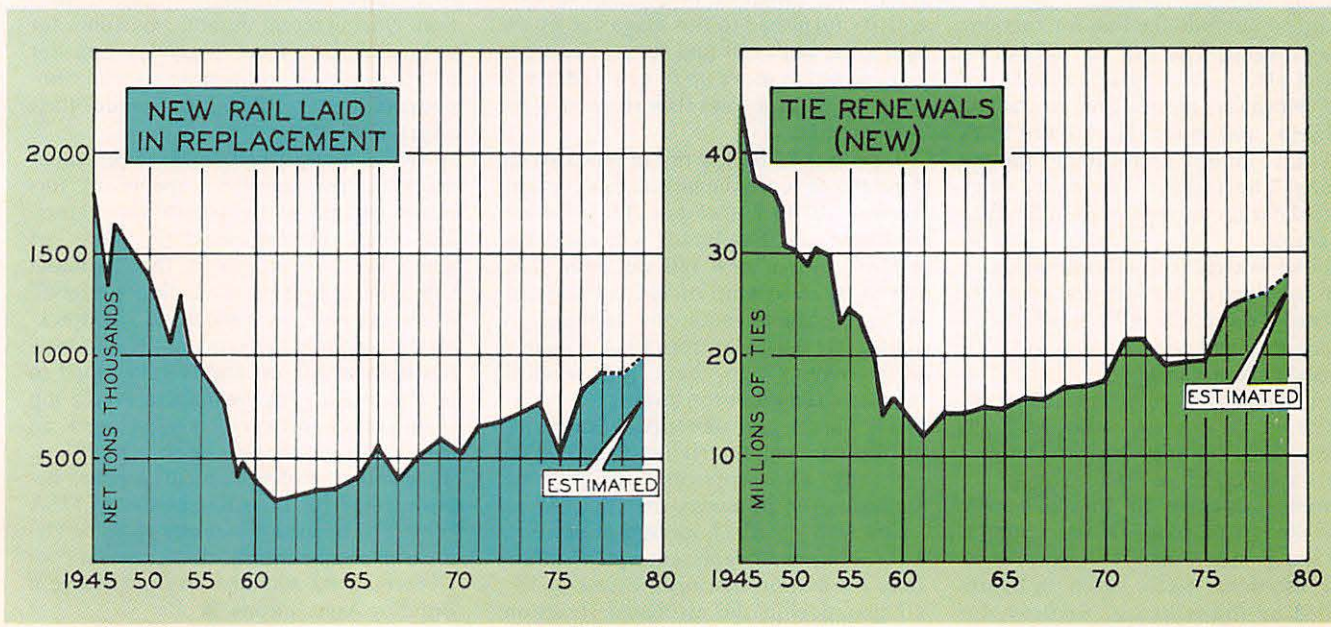
—The $1.6-billion funding program for the improvement of railroad tracks and equipment provided by the Railroad Rehabilitation and Regulatory Reform (4R) Act of 1976.

Each of these programs has imparted a degree of momentum to m/w activity during a period when natural forces have been making a contribution of their own. These forces include the effect of growing unit-train operation on some roads, such as the Burlington Northern and the Missouri Pacific, and an apparent awareness on the part of some railroad managements that continued undermaintenance can be counterproductive.

● **Even so, declines in 1978.** But in the face of all these positive factors we are confronted with the fact that, according to information provided *Railway Age* by practically all the large railroads, both rail renewals and tie renewals declined in 1978. Based on this information, it is estimated that the Class I railroads as a whole inserted 840,000 short tons of new rail in renewals last year. Compared with the 920,894 tons laid in 1977, this represented a reduction of 80,800 tons, or about 9%.

In view of the reduced rail renewals last year, it is apparent that some negative factors were at work in that year. They are not hard to find. One was a strike that affected m/w activity profoundly on one large road (the Norfolk & Western) and probably to a lesser extent on other roads.

But while the strike situation could account for a sharp decline in rail renewals (and also other m/w work) of the NW, it does not explain equally sharp declines in rail renewals on other large roads.



Rail and tie renewals are expected to reach the highest levels since the '60s in 1979. Left: Ties stacked for seasoning at a Kerr-McGee Chemical Corp. plant in Meridian, Miss. Right: On the Burlington Northern, two ¼-mile-long sections of welded rail are joined for bolting together.

● **Pullbacks on big railroads.** The fact is that the decline that occurred in estimated rail renewals last year can be accounted for entirely by sharp cutbacks on five large railroads including the NW. Except for this handful of large roads, declines in rail renewals on individual roads last year were nominal and were outweighed by increases on other lines.

A situation that was encountered on a transcontinental railroad will demonstrate how the total figures for the industry can be distorted by an incident that is entirely unrelated to fundamentals or basics. On this road almost half of its 1978 new-rail program was earmarked for laying on a branch line as part of a program to upgrade the line for carrying unit coal trains. The new rail was delivered and placed on the ground ready for laying. However, by this time it was late in the year, and to get the rail into track would have meant establishing another rail gang. The decision was made, therefore, to defer laying the rail until the 1979 work season.

Another sidelight on m/w operations in 1978 is provided by the fact that on all the large roads (except the NW) on which rail renewals declined sharply last, year, tie renewals remained steady.

Even though rail renewals last year declined from the previous year, with the exception of 1977 they were still higher than for any year since 1956.

● **Smaller decline in tie renewals.** The decline in tie renewals last year was much less proportionately than the drop in rail insertions. Again based on figures provided by the railroads, *Railway Age* estimates that the Class I railroads inserted 25.6 million ties in renewals last year. The decline compared with 1977 was only 360,000 ties, or about 1.4%. Tie renewals last year thus remained in the same higher range that has prevailed for several years, a range that reflects the efforts of the railroads to get their tie renewals up to a level sufficient to prevent the further accumulation of deferred maintenance in the tie condition. With the exception of 1977, tie renewals were higher than for any year since 1953.

● **Bright picture for 1979.** If the railroads are able to carry out the plans they have formulated for 1979, that year will tell an entirely different story in m/w than 1978. Based on projections of 1979 activity furnished to this magazine by the railroads, both rail and tie renewals can be expected to move up to new high levels since the historic lows they reached in the early 'sixties.

Installations of new rail in renewals are expected to score the largest gain percentagewise. In fact, *Railway Age* estimates that the Class I railroads will insert one million tons of new rail this year. This would mean a jump of 165,000 tons, or 20%, compared with the tonnage installed last year. Not since 1954, a quarter of a century ago, have rail renewals reached the million-ton level.

The projected tie-renewal story for 1979 is hardly less striking. Based on the railroads' own projections for the year, *Railway Age* estimates that the Class I roads will install 27 million crossties in 1979. This would represent a gain of more than 1.4 million ties, or in excess of 5%, compared with the estimated insertions last year. Not for at least 25 years have tie renewals been this high.

Another index of m/w activity, track surfacing, continues to creep higher from year to year. This is shown by figures submitted by 29 railroads for the last two years and the projected figures for 1979. In 1977 these 29 roads surfaced 48,485 miles of track; in 1978 they surfaced 49,140 miles, and in 1979 they expect to surface 51,911 miles.

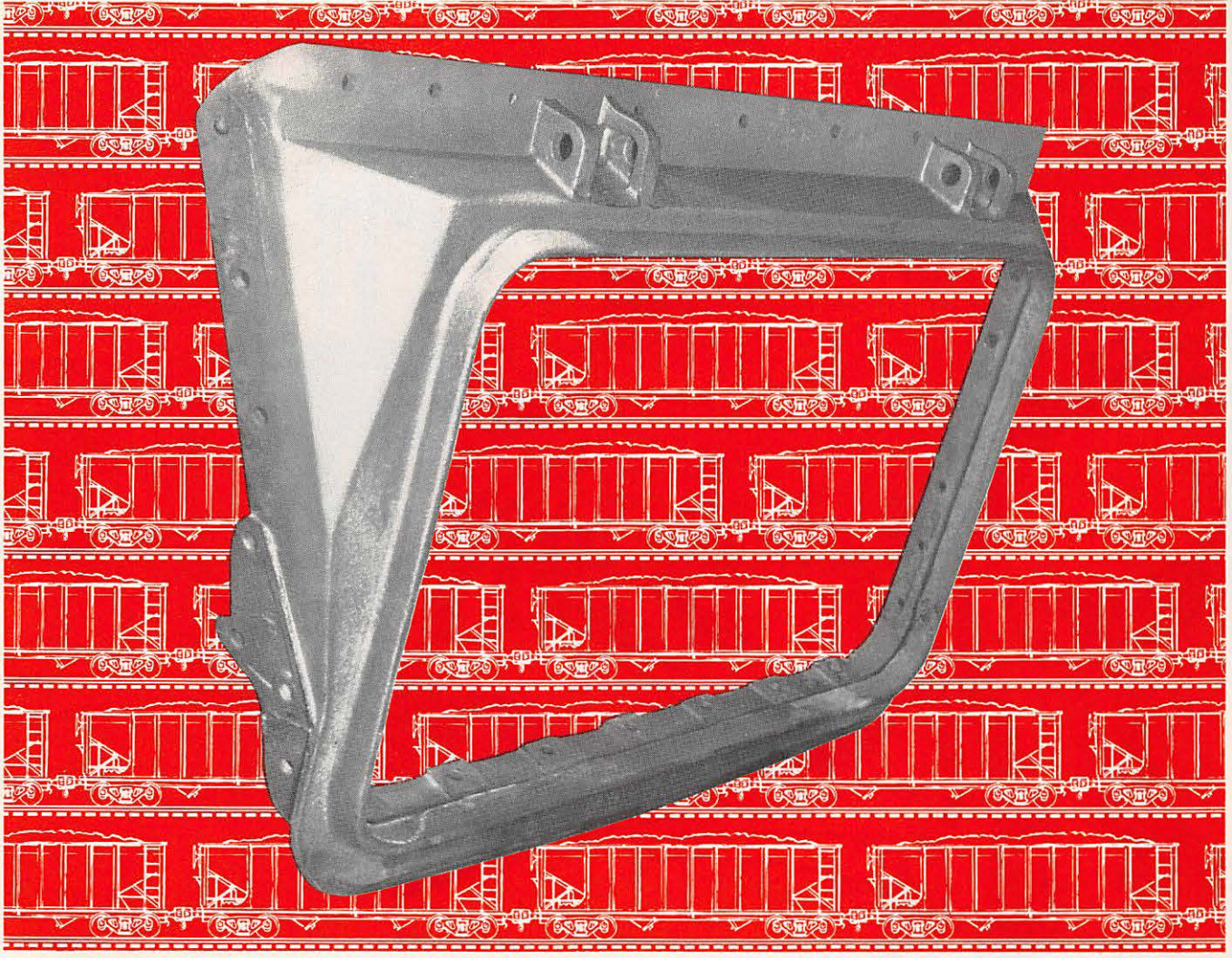
● **Possible negatives, positives.** There are, of course, factors that could cause the railroads to scale back their plans for 1979. Even a mild business recession, widely predicted, could prompt railroad managements to run for cover, although there are factors that could have a restraining effect on such a tendency. One is the "bad press" the railroads have been getting because of accidents attributed to track conditions. Another is the need to counteract the increased wear and tear imposed by heavy and growing traffic loads.

Not to be overlooked is the supportive effect of the several government-sponsored or -funded track rehab programs mentioned earlier, whose effect is apt to be felt for a number of years to come.

Another sustaining influence for m/w programs is the residual amount of deferred maintenance that remains to be overcome in thousands of miles of track. Catch-up work on these tracks is certain to be a factor bolstering m/w programs for years to come. Also there is the sustaining influence imposed by increasing traffic loads, especially on lines carrying unit trains.

● **Activity among suppliers.** Among other developments in m/w, the suppliers continue their efforts to improve on the capabilities of existing m/w machines and to explore new frontiers of mechanization. During recent months, machines for unloading ties from gondolas and for picking up or reclaiming track components on the job have made their appearance.

An emerging trend is development of machines that combine operations formerly performed by separate machines. The track-relaying machine, units of which are in operation in the Northeast Corridor and on the Canadian National, is an example. A version of the track-laying train that changes out the rails only has been developed and is understood to be about ready for the market. And a top maintenance officer has developed an idea for a tie-renewal train. Doubtless, these and other developments are now being readied for unveiling at the REMSA exhibit to be held at Atlanta, Ga., in October in conjunction with the annual conferences of the Roadmasters and Bridge & Building Associations. ■



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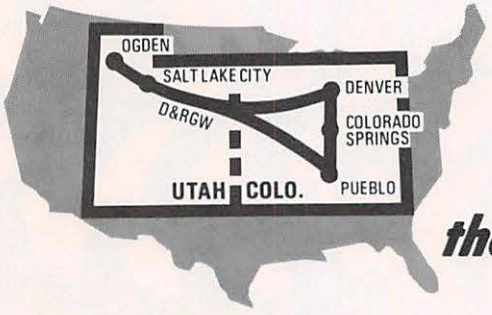

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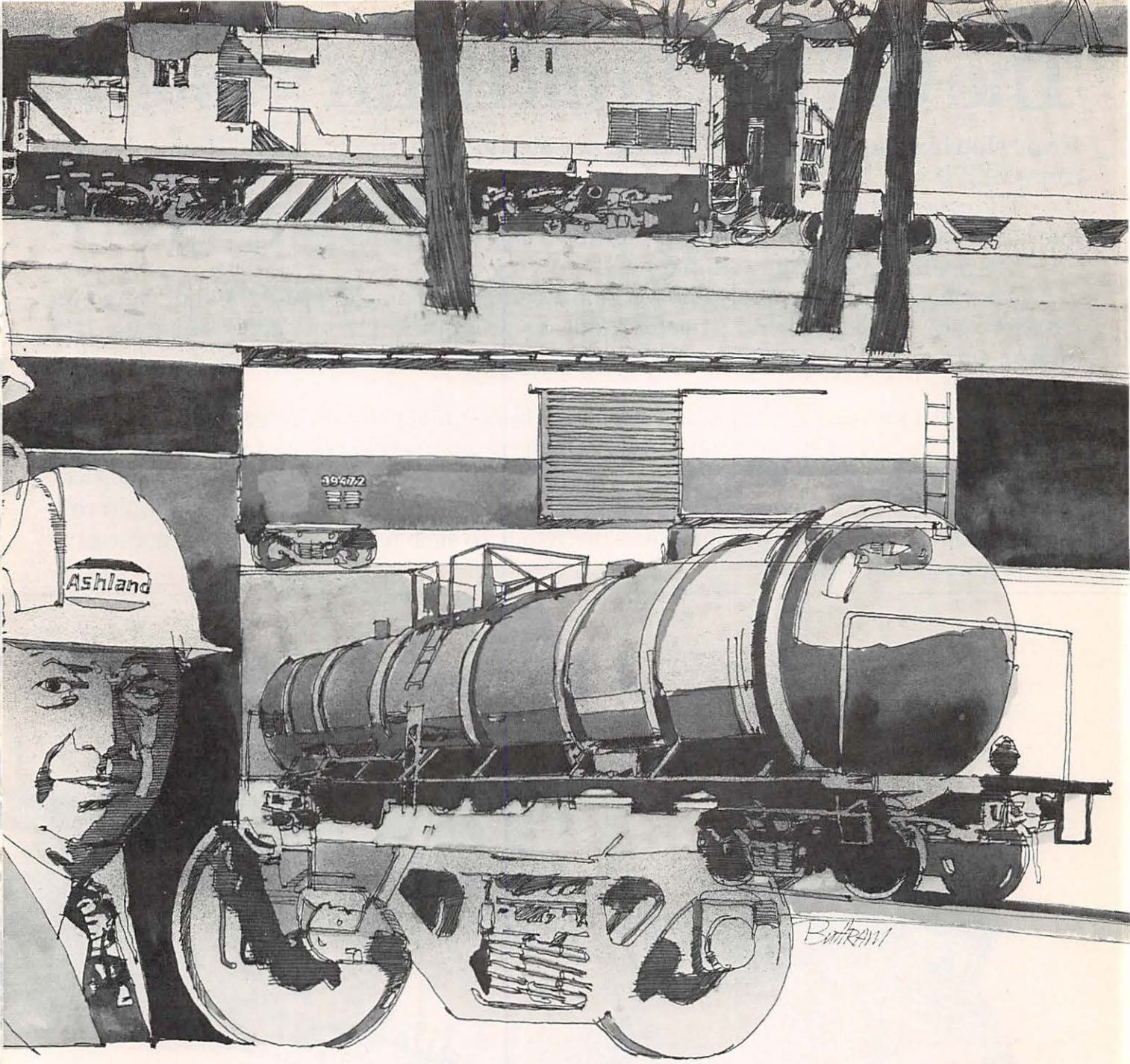

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If you ship bulk liquids, here's something you should know about: the TankTrain system, from GATX.

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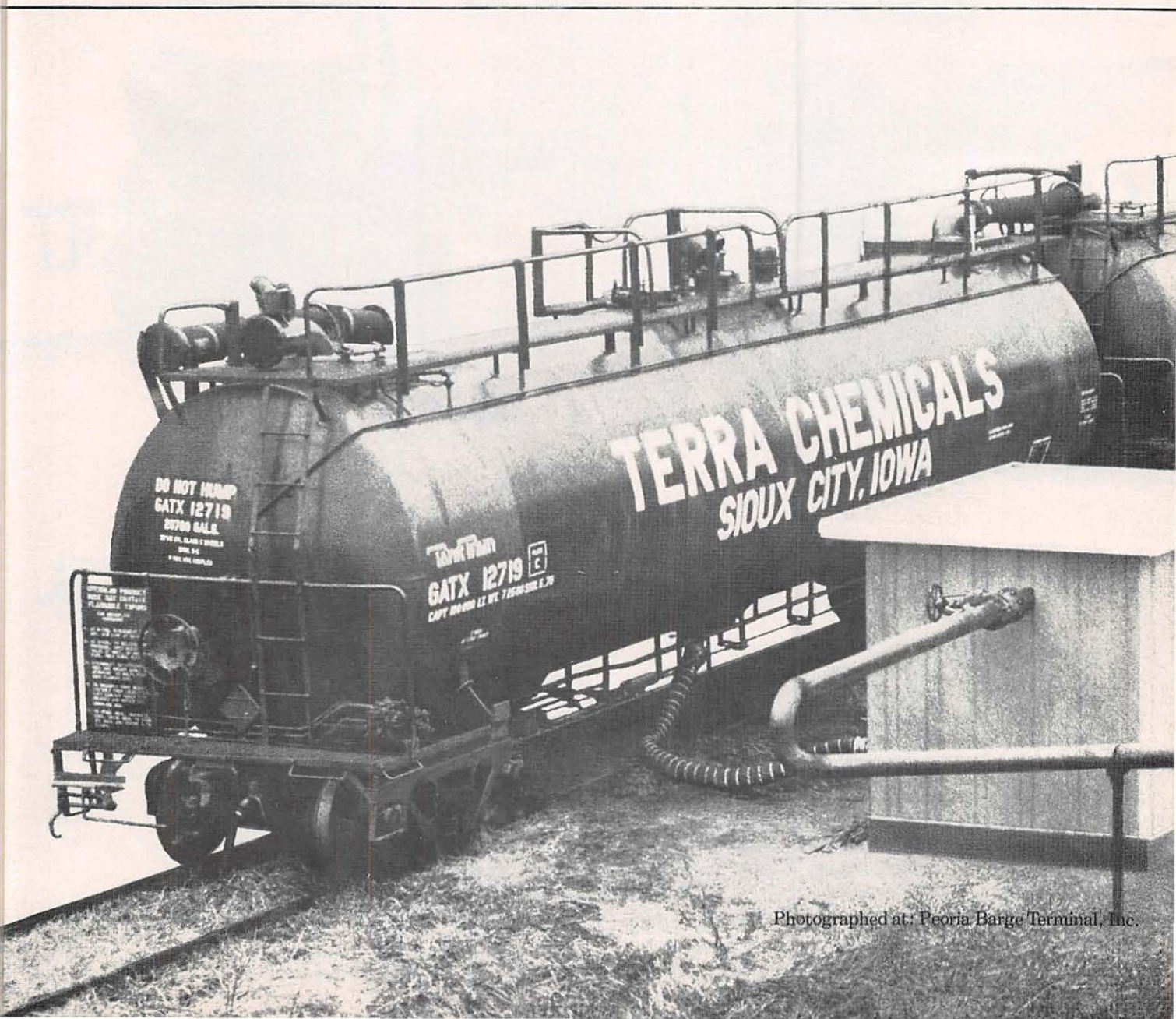

Photographed at: Peoria Barge Terminal, Inc.

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No matter how you look at it–from the standpoint of cost, or plain ease of handling–the TankTrain system is a tremendous improvement."

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Review of '78

Record-high activity, but little profit

Optimists may look back at 1978 as a record year for railroads, with record freight revenues, record-high ton-miles, new records for TOFC/COFC volume and revenue, and record-high capital expenditures. Pessimists may point out that for all that traffic, all those revenue dollars, all that capital investment, railroads returned precious little to the bottom line.

Optimists may see '78 as the year in which government finally got its act in shape, enacting first-ever waterways user charges, refusing to give in to coal slurry-pipeline promoters on eminent domain, loosening the purse strings on 4R-Act financial assistance and authorizing more aid for Conrail, and generally recognizing both railroad capabilities (as in the industry's ability to handle coal) and railroad financial requirements (as in capital needs). Pessimists may bemoan an increasing tendency of regulators and others in government to meddle in management and operation of the railroads.

Optimists may regard last year as the time when a breakthrough was finally made on work rules, with the negotiation of two agreements that establish precedent for train operations with reduced crews. Pessimists may respond, "Yes, but at what price?"

It was that kind of year.

It was a year in which operating revenues came in at around $21 billion, closely pursued by operating expenses at about $20.5 billion. It was a year in which rate of return on net investment had nothing but a zero to the left of the decimal point.

It was a year that began with a thud, with brutal winter weather and the coal strike teaming up to bury the industry under its worst-ever quarterly deficit.

It was a year that then picked itself up, though it was not until the fourth quarter that the industry as a whole dug out from a deficit position.

It was a year of peace and war, one in which new agreements were worked out with virtually all rail unions but one in which a single union escalated a local dispute into a major confrontation and was threatening more of the same by refusing to accept the wage/benefit pattern established with other organizations.

It was a year in which government moved positively and government moved negatively, a year in which a rational national transportation policy still seemed as elusive as the Loch Ness monster.

It was 1978, and these were among its high and low points:

—Despite the coal strike, the weather, the rail strike, and persistent equipment shortages, railroads did produce more transportation than ever before, on the ton-mile scale. The record came despite a 6% drop in loadings of the industry's top-volume commodity (and a major ton-mile producer), coal.

—Like ton-miles, intermodal loadings rose for the third straight year, and trailer/container loadings climbed above the three-million mark for the first time.

—Upwards of 68,000 new freight cars were placed in service, highest number since 1975. Upwards of 1,300 locomotives were installed, up from fewer than 1,000 in 1977. New orders placed, meanwhile, were something else again. On freight cars, the estimate for '78 was 120,000-plus, and the expectation was that 1979 would see deliveries of up to 80,000 cars. On locomotives, while the Dec. 1, 1978, backlog was under 850 units, announced acquisition plans for '79 put the total at about double that figure.

—Merger planning moving ahead. ICC began deliberations on Burlington Northern-Frisco, with a decision due in mid-1980, while Chessie and Seaboard Coast Line came to an agreement on consolidation, that one expected to go to the commission early in '79.

—Milwaukee Road and Conrail reached crew-consist agreements with the United Transportation Union, agreements establishing the principle of operation with one-and-one crews for most road and yard assignments. Savings are to be shared, with individual payments to employees working on short crews and with a $48.25 payment into a special fund, to be shared in by protected employees, for each reduced-crew operation. UTU attempted to establish those agreements as the minimum acceptable, but a number of observers regarded the buy-off price as too high, especially in view of a Canadian National-UTU agreement, which gave much the same relief on crew size but limited savings sharing to 20% over a fixed period of 10 years.

—New wage/benefit agreements were reached with all labor organizations except the Clerks and Train Dispatchers, agreements that work out to increases of about 10% per year over the 39-month period ending March 31, 1981. At year-end, the Clerks organization was threatening a strike unless the package was improved for its members. During 1978, total industry payroll topped $9.4 billion, and average annual earnings per employee rose above $20,000 for the first time.

—During '78, too, the industry saw its first major strike since the early 1970s. It started in July, with the Clerks striking (but not shutting down) Norfolk & Western in a dispute over scope and security. NW kept on operating and, in fact, stepped up operations as the walkout dragged on. Finally, well over two and a half months later, the union stepped up *its* operations, striking other roads all across the country, roads that were party to the industry's strike-insurance program. The strike ended, at least temporarily, with creation of an emergency board and issuance of a court order, but in the meantime the union was on its way to establishing the legality of a broad walkout to support a local strike if the struck road was receiving strike-insurance benefits. By year-end, the emergency board had made its report on the narrow dispute with NW, but no agreement had been reached.

—Railroads got two freight-rate increases in an effort to catch up with increased costs last year, the second boost coming only after a voluntary rollback on the amount of the proposed increase to put it within the assumed boundaries of new pricing guidelines announced by the Administration. Even with those rate hikes, however, the outlook for the bottom line in 1979 remained bleak, barring either substantial increases in traffic or substantial reductions in cost or both.

—In Congress, Conrail got $1.2 billion more in repayable financing; Amtrak got a reprieve from route cutbacks; commercial users of the inland waterways system got user charges (along with authorization for a new lock-dam facility on the Mississippi); and coal slurry-pipeline interests did *not* get the right of eminent domain.

—Among the regulators, ICC decided that maybe it was wrong all along in blocking railroads from entering into contract rates with customers, and it also proposed (at long last) to exempt rail movement of fresh fruits and vegetables from regulation. At the same time, the commission created a fiasco on car supply, issuing orders and levying fines for violation of those orders and then having to back away from both sets of actions.

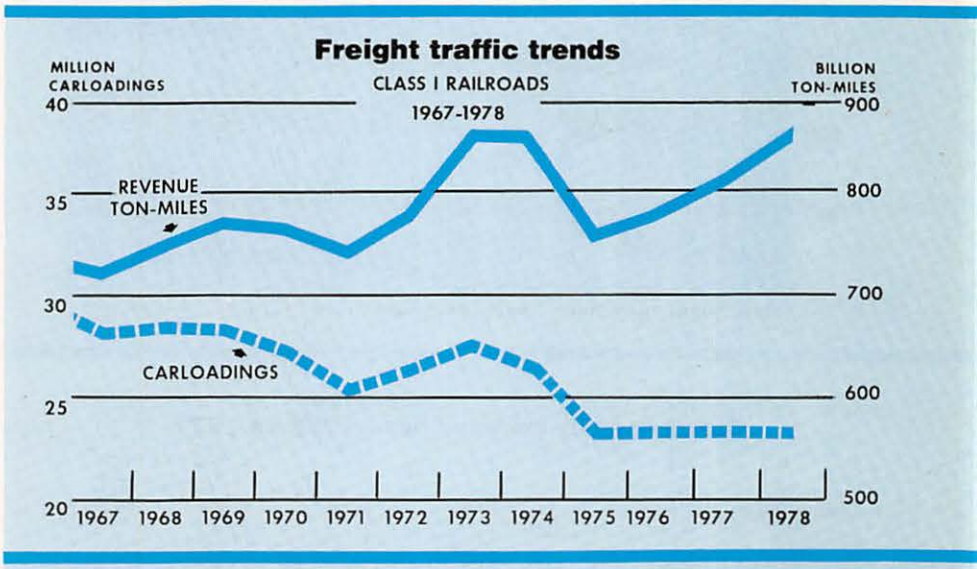
In looking back at '78, AAR President William H. Dempsey could be (1) positive, (2) euphemistic, and (3) hopeful: "In spite of numerous positive results in

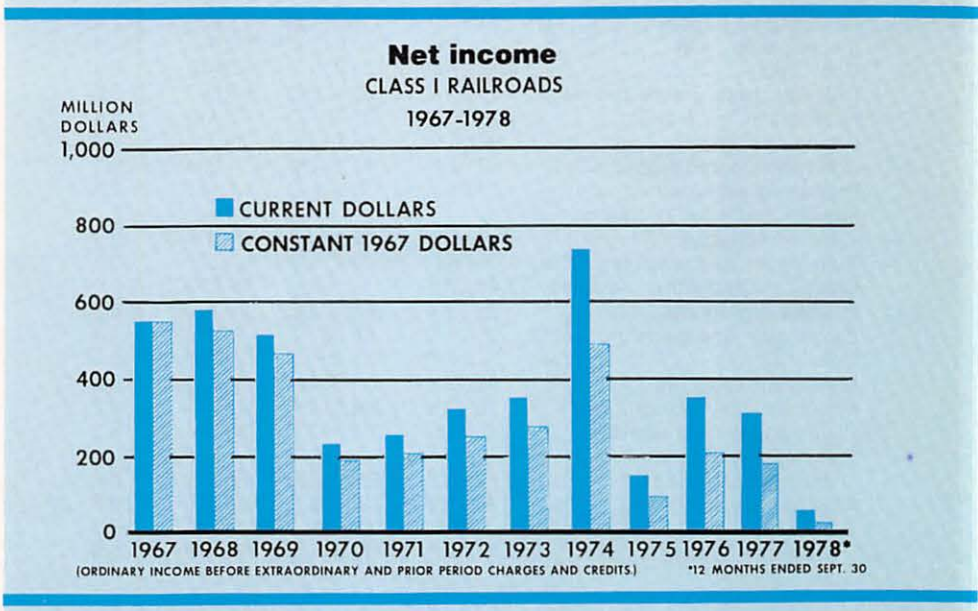
the area of traffic, progress in the rehabilitation of roadways and facilities, and positive legislation, 1978 was not, generally speaking, the best of years for the railroads. The good results we achieved only confirmed what we already knew—that there is a strong demand for rail service, that the industry is essentially dynamic and responsive, that Congress recognizes the injustice of past government policies discriminating against the railroads, and that it is anxious to correct this situation."

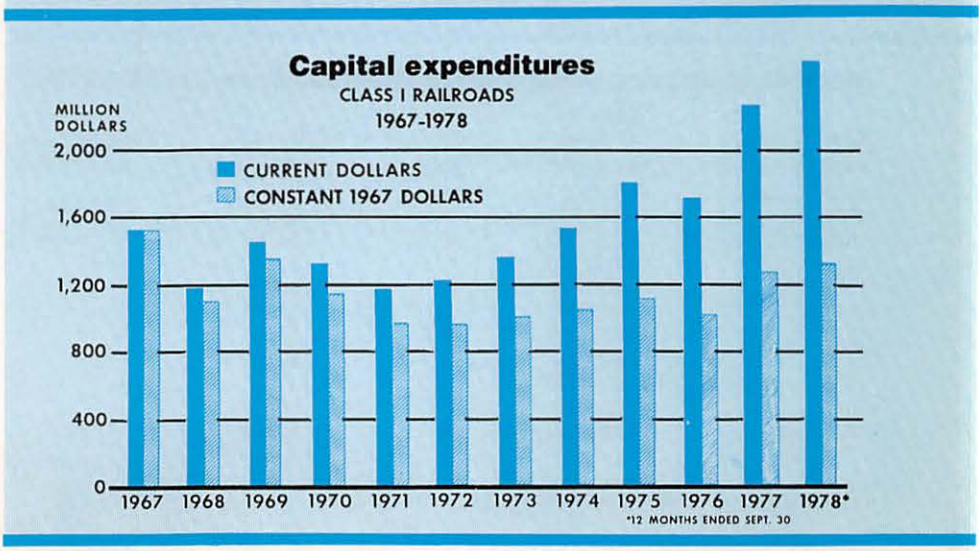
These, said Dempsey, "are good things to have going for you, and we anticipate that they will continue in 1979. Unfortunately, in 1978, results from these positive factors were more than offset by escalating inflation and by continuing frustrations resulting from outmoded and very restrictive regulatory policies and a growing intrusion into the day-to-day management functions of railroad operations. With the Administration expected to introduce legislation in the new Congress calling for a substantial deregulation of ground transportation and with the broad-gauge resentment caused by ICC decisions in the first half of last year, deregulation is expected to become a major issue in 1979. Certainly," Dempsey concluded, "meaningful reforms are an obvious prerequisite to significant improvement in the railroad situation."

Financial results

Depending upon where you looked in 1978, the year was both the best of times and something close to the worst. After a first quarter that wasn't all that good anywhere—a quarter that saw the railroad industry posting the worst three-month deficit in history, $274 million—a number of roads rebounded to show earnings at or near record levels in succeeding quarters. Overall, the deficit was cut to $71.4 million at midyear and to $43.1 million through the first nine months, and final figures were expected to show the industry in the black, but barely, for the full year, with a rate-of-return on net investment of under 1%. As usual, the worst numbers came in '78 from the East, with the predictable Conrail deficit compounded by weather problems and the coal strike in the first quarter and with three-month deficits even for Chessie and Norfolk & Western. For the full year, only in the Western District was ordinary income expected to show an increase from 1977 figures.







Revenue carloadings of T-O-F-C traffic

Carloadings by commodities—1978 vs 1977

Commodity	1978	1977	Incr. or decr. 1978 vs 1977 Cars	Percent
Grain	1,341,226	1,241,158 I	100,068	8.1%
Other farm products	245,381	317,075 D	71,694	22.6
Metallic ores	1,710,405	1,310,786 I	399,619	30.5
Coal	4,428,119	4,724,938 D	296,819	6.3
Crushed stone, gravel, and sand	955,009	990,669 D	35,660	3.6
Nonmetallic minerals	762,477	765,587 D	3,110	0.4
Grain mill products	972,636	996,613 D	23,977	2.4
Food and kindred products	991,297	1,012,332 D	21,035	2.1
Primary forest products	1,086,124	1,111,275 D	25,151	2.3
Lumber and wood products except furniture	649,066	675,120 D	26,054	3.9
Pulp, paper, and allied products	1,094,848	1,102,418 D	7,570	0.7
Chemicals and allied products	1,438,767	1,411,068 I	27,699	2.0
Petroleum products	359,814	380,604 D	20,790	5.5
Stone, clay, and glass products	962,379	950,322 I	12,057	1.3
Coke	375,418	349,368 I	26,050	7.5
Metals and products	967,240	911,630 I	55,610	6.1
Motor vehicles and equipment	1,261,367	1,303,114 D	41,747	3.2
Waste and scrap materials	713,049	679,113 I	33,936	5.0
Forwarder and shipper association traffic	624,209	588,039 I	36,170	6.2
All other carloads	2,408,168	2,327,703 I	80,465	3.5
LCL traffic	25,896	24,485 I	1,411	5.8
Total cars loaded	**23,372,895**	**23,173,417 I**	**199,478**	**0.9**

Methods of shipping motor vehicles from factories—1967-1978

Year	Vehicles shipped	Highway %	Railroad %	Boat %
1967	8,976,000	51.4	48.4	0.2
1968	10,718,000	50.8	49.0	0.2
1969	10,147,000	48.2	51.7	0.1
1970	8,239,000	45.3	54.7	—
1971	10,638,000	47.5	52.5	—
1972	11,270,000	47.8	52.2	—
1973	12,637,000	48.0	52.0	—
1974	10,058,000	44.8	55.2	—
1975	8,985,000	46.4	53.6	—
1976	11,477,000	48.5	51.5	—
1977	12,639,000	49.3	50.7	—
1978 (9 mos.)	9,489,059	49.5	50.5	—

Source: Motor Vehicle Manufacturers Association of the United States, except columns 2 and 3 for 9 mos. 1978 estimated by AAR.

Capital expenditures

With the switch by a number of roads to depreciation accounting, the line between capital expenditures and maintenance spending has become somewhat blurred. However, railroad gross capital spending for equipment and plant last year topped $2.5 billion, and nonrailroad investment in equipment added more than $1 billion to the total. Expenditures from all sources for capital improvements and maintenance went over $10 billion for the first time.

Increased spending was reflected in increased installations of both freight cars and locomotives—and in sharply increased year-end backlogs. Despite a strike that lasted through the first quarter at Pullman Standard, and despite persistent shortages of heavy castings, freight-car deliveries for '78 were estimated at 68,000 units, with a backlog going into '79 of about 100,000 cars. Approximately 1,300 new and rebuilt locomotive units were installed last year, up from 970 in 1977, and aggregate horsepower rose by a half-million to more than 59.6 million. Projections for locomotive deliveries in '79, based upon '78 orders, ranged upwards from 1,500 units, and actual deliveries could be quite a bit upwards.

Traffic and service

From a traffic standpoint, 1978 was really a two-part year—the first part covering the first three or four months and the better part covering the rest of the year. Despite a first-quarter handicap imposed by bad weather and the coal strike, the rebound that started in April continued, and final '78 figures were expected to show ton-miles at about 867 billion, up by 4.9% from 1977 levels and about 1.8% above the previous record high of 852 billion set in 1973.

The year began disastrously, with ton-miles through 13 weeks down by 3.6% from '77 and by almost 7.5% from '73. Then, toward the end of April, operations got back to normal; the coal strike was over, and for the final eight months of 1978—despite the impact of the BRAC strike against NW and its spread—ton-miles ran 7% above 1977 levels and were about 3% above the totals for the previous record year.

On the plus side in '78, TOFC/COFC traffic scored a gain of about 10% in carloadings and 12% in trailer/container loadings (indicating improved utilization of flatcar equipment). Grain traffic was up by approximately 8%. Ore loadings showed a 29% increase, bouncing back from a 1977 that saw prolonged strikes cutting off ore (taconite) shipments. Coal loadings were up by 6.5% over the last nine months of '78, after falling behind

by about 50% in the first three months while the United Mine Workers union was on strike, and the result was a drop of about 6% in coal loadings for the full year.

During '78, railroads came under fire repeatedly because of power and freight-car shortages. Weather could be blamed for a good part of the problem—weather conditions that slowed movement of loads and delayed return movement of empty cars even more as railroads struggled to keep loaded cars moving. By the time car supply got straightened out, both covered and open-top hopper cars were in short supply, along with both 40- and 50-foot boxcars. ICC issued orders that railroads regarded as worsening rather than alleviating the problem; fines were levied against a number of roads, and the situation threatened to go from bad to worse until the commission backed off on a couple of fronts.

All of this led AAR President Dempsey to make the strongest denunciation Congress may ever have heard regarding outmoded ICC rate regulation and "outlandish" ICC intervention in the management of rail operations.

So long as the commission "continues to work its misguided regulatory ways on railroad rates," Dempsey declared, "there will be car 'shortages' to distress both the railroad industry and the Congress," not to mention shippers.

As for rail service innovations, 1978 may not have been one of the really great years, but it was not without progress, especially in the intermodal area.

Last year, for example, saw the beginning of the first FRA-AAR corridor demonstration project, on Milwaukee Road between Chicago and the Twin Cities, and by year-end the results were looking promising. Last year, too, saw a lot of planning for a new attempt to return perishables to the rails, with Santa Fe setting up a new schedule of Plan 3 rates and a couple of shipper organizations making the kind of equipment and traffic commitments that could enable the industry to repenetrate a market where it now has only about 10% of the available traffic. And it was in '78 that the Federal Maritime Commission gave its approval to the minibridge concept, a concept that had long been under challenge but one with an improving potential (especially since the signing of the Panama Canal Treaty has raised questions about the costs and reliability of future all-water movement of containers).

During '78, a number of new unit coal train operations were begun, and late in the year Family Lines laid claim to the first two-commodity unit train with a triangular operation involving loaded movements (soybeans and superphosphate) on two legs of the triangle.

Freight and passenger traffic—1967-1978

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)	Revenue passenger-miles (millions)
1967	28,084	1,277	719,498	15,193
1968	28,253	1,510	744,023	13,110
1969	28,237	1,540	767,841	12,159
1970	27,160	1,450	764,809	10,740
1971	25,266	1,356	739,743	8,833
1972	26,105	1,448	776,746	8,558
1973	27,338	1,631	851,809	9,295
1974	26,184	1,610	850,961	10,333
1975	23,218	1,308	754,252	9,934
1976	23,457	1,506	794,059	10,304
1977	23,173	1,689	826,292	10,293
1978	23,373	1,840	*e*867,000	*e*10,220

e Estimated

Note: Piggyback carloadings shown above include mail and express.
Revenue passenger-miles include National Railroad Passenger Corp. (Amtrak) beginning with year 1971 and Auto-Train Corp. for years 1972-77.

Rate of return and net income—1967-1978

Year	Net railway operating income *a* (millions)	Rate of return on investment after depreciation*a* (millions)	Net income after fixed charges *b* (millions)	Net income in constant 1967 dollars (millions)
1967	$676	2.46%	$554	$554
1968	678	2.44	569	545
1969	655	2.36	514	468
1970	486	1.73	227	196
1971	595	2.12	247	203
1972	654	2.34	319	252
1973	650	2.33	359	268
1974	768	2.70	730	497
1975	351	1.20	145	90
1976	452	1.60	355	210
1977	343	1.24	326	182
12 mos. to 9/30/78	228	0.83	50	27

a After provision for deferred taxes beginning in 1971.
b After provision for deferred taxes beginning in 1971 and including equity in undistributed earnings of affiliated companies beginning in 1974.

Note: Statistics shown above and elsewhere in the tables are for Class I line-haul railroads, excluding National Railroad Passenger Corp. (AMTRAK) and Auto-Train Corp., unless otherwise indicated.

Condensed income account—1967, 1977, and 1978

	1967 (millions)	1977 (millions)	12 mos. to 9/30/78 (millions)
Total operating revenues	$10,366	$20,090	$20,908
Total operating expenses[1]	9,680	19,534	20,441
Income taxes on ordinary income[2]	66	60	110
Provision for deferred taxes	—	176	147
Net railway operating income	676	343	228
Net ordinary income	554	326	50
Net income in constant 1967 dollars	554	182	27

Note: Data based on the new Uniform System of Accounts (U.S.O.A.), effective Jan. 1, 1978.
1 Operating expenses include rents and taxes other than income taxes.
2 Data for 1978 include a small amount of state taxes.

Operating revenues—1967, 1977, and 1978

	1967 (millions)	1977 (millions)	12 mos. to 9/30/78 (millions)
Freight	$ 9,130	$18,892	$19,501
Passenger	485	337	352
Mail	264	*	*
Express	61	*	*
All other	426	861	1,055
Total	**$10,366**	**$20,090**	**$20,908**

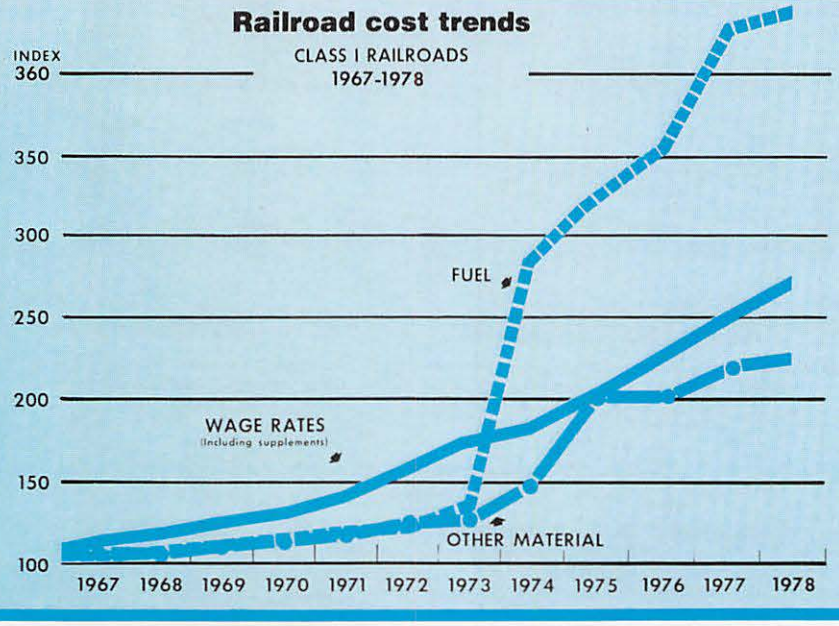
*Included in freight revenues.

Prices and revenue averages—1967-1978

Year	Consumer price index (1967 = 100)	Producer price index for railroad equipment (1967 = 100)	Revenue per ton-mile (cents)	Revenue per passenger-mile (cents)
1967	100.0	100.0	1.269	3.195
1968	104.2	103.1	1.310	3.389
1969	109.8	108.8	1.347	3.608
1970	116.3	115.1	1.428	3.914
1971	121.3	121.1	1.593	4.306
1972	125.3	128.7	1.618	4.747
1973	133.1	134.7	1.617	4.756
1974	147.7	163.8	1.853	5.207
1975	161.2	201.2	2.041	5.396
1976	170.5	216.7	2.191	5.744
1977	181.5	233.5	2.286	5.916
1978 est.	195.0	253.0	2.355	6.000

Note: Revenue per passenger-mile figures include Amtrak statistics beginning with 1971 and include Auto-Train for years 1972-77.

Railroad cost trends



Freight rates

Costs went up in 1978, and so did freight rates, twice on a general basis and once on a selective basis in one district. In June, the ICC approved a rate increase working out to 3.4%, while holding a requested 7% boost on steam coal down to 4% and ordering a rollback from a previous increase. In October, eastern roads got increases ranging from 3% to 20% on 20 commodities that the carriers argued were moving at marginal or below-cost rates.

Then came the big increase, one that got tangled up with the suddenly announced Administration wage-price guidelines. The industry had established its pattern for labor settlements, and it put in for increases averaging 8.1% at just about the same moment the Administration was deciding to establish its guidelines. Even though a strong case could be made for the full amount of the rate increase proposed, railroads made a downward adjustment, and ICC approved the proposal, with certain changes, effective Dec. 15. As approved, the increases were expected to yield 6.5% or less, and the commission conceded that the industry's voluntary cutback, coupled with exceptions and holddowns that were ordered in the decision, "could have an adverse effect on the carriers." ICC's solution was to authorize a refiling for increases on less-profitable commodity movements to help railroads recoup.

Management and labor

Even without the Brotherhood of Railway and Airline Clerks' strike against Norfolk & Western—which began in July and went nationwide in September—1978 would not have been a good year for management-labor relations.

Negotiators tried, several years ago, to make '78 a decent year. In the agreement they worked out then, they said that notices could be served Jan. 1, 1977, for changes to be effective Jan. 1, 1978, and notices were in fact served in '77, by a number of unions and then by the railroads (reviving a host of work-rule-change issues). The problem was that '77 passed, and about half of '78 did, too, before the first agreements were reached. Then, tentative agreements were announced with five unions, settlements that called for relatively small percentage increases in basic wages but for generous protection against living-cost increases. Two of the five organizations, however, found their presumed agreements rejected by referendum, and it was back to the bargaining table. Railroad work-rule demands were, for the most part, dropped, remanded for local handling.

At year-end, the industry did have 39-month agreements (with a Jan. 1, 1978, starting date) with all but two unions, the Clerks and the small American Train Dispatchers Association. On average, the established pattern added up to a potential 10%-per-year increase in wages and benefits.

BRAC, however, was something else. To begin with, on the national scene, BRAC was demanding not percentage increases but dollar-for-dollar increases equal to those going to members of other unions ranking higher on the pay scale. Under the leadership of a new president, BRAC went to court to try to force the National Mediation Board to withdraw from the wage case, thus freeing the union to strike—which it was threatening

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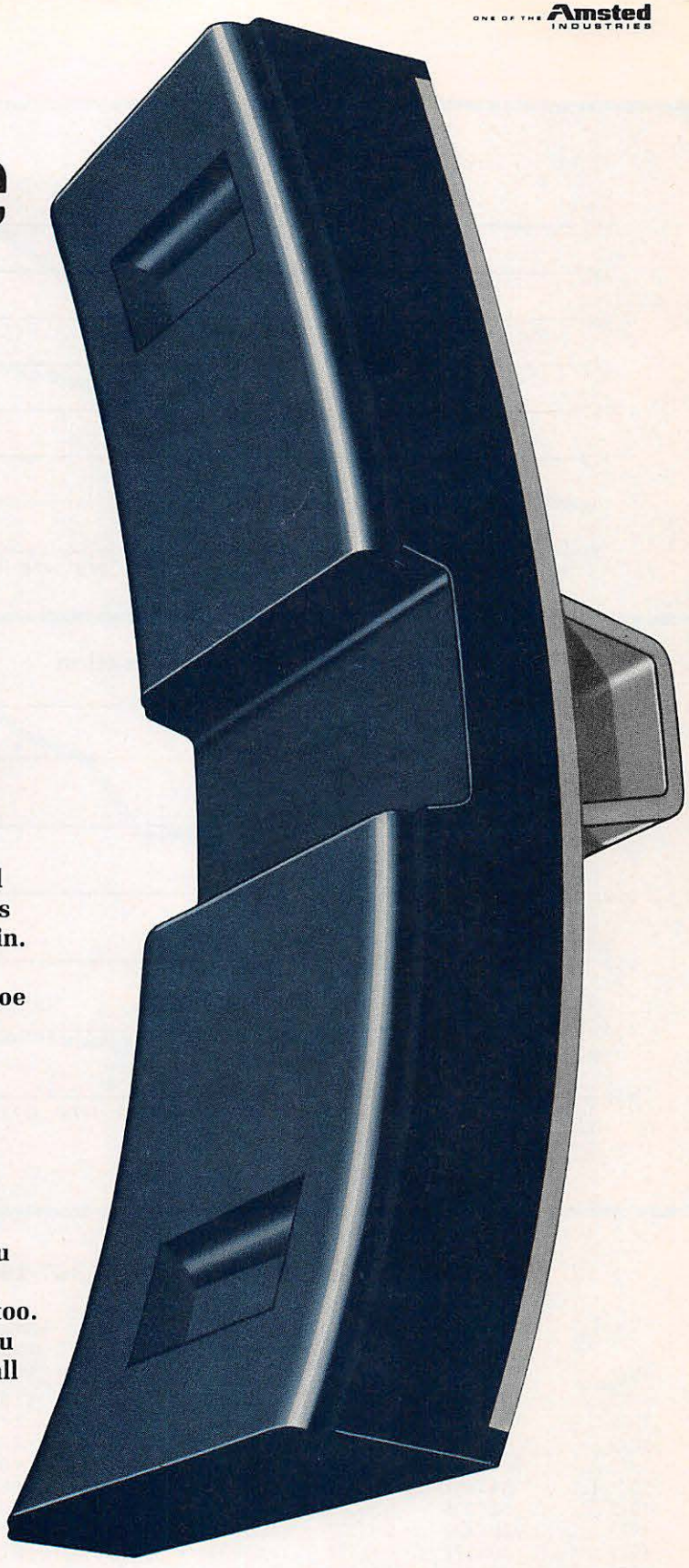

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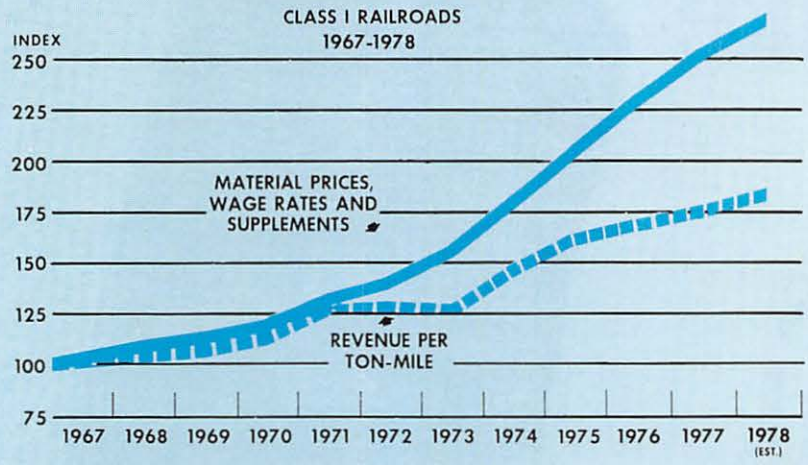
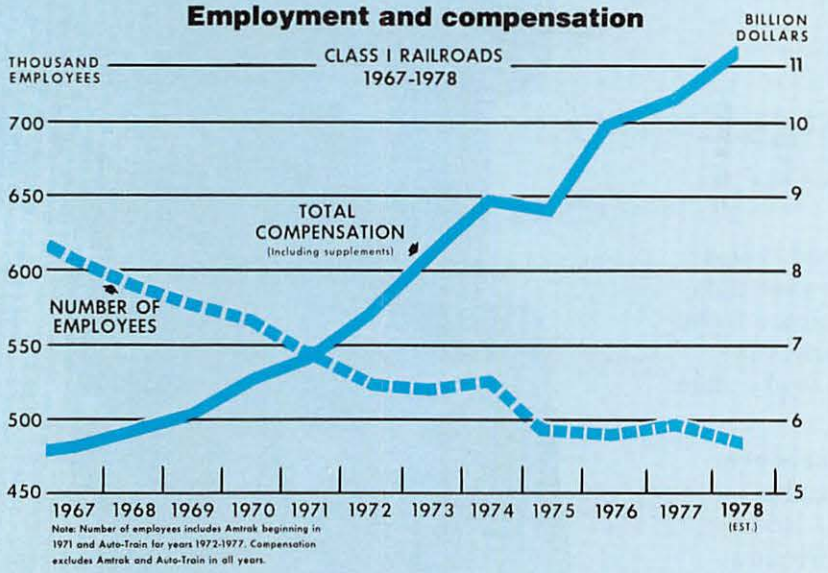
Revenue and cost trends



Employment and compensation



Note: Number of employees includes Amtrak beginning in 1971 and Auto-Train for years 1972-1977. Compensation excludes Amtrak and Auto-Train in all years.

Employees and their compensation—1967-1978

Year	Number of employees 1	Number of employees 2	Total payroll (1000s)2	Average annual earnings per employee1	Average straight-time Hourly rate2	Hourly earnings2
1967		610,191	$4,933,663	$ 8,085	$3.30	$3.56
1968		590,536	5,110,636	8,654	3.47	3.74
1969		578,227	5,362,754	9,274	3.70	4.00
1970		566,282	5,711,280*	10,086*	4.05*	4.35*
1971	544,497	544,333	5,999,968*	11,023*	4.52*	4.84*
1972	527,235	526,061	6,424,920	12,213	4.94	5.32
1973	524,422	520,153	7,083,383	13,627	5.43	5.83
1974	533,277	525,177	7,475,834	14,235	5.72	6.16
1975	494,348	487,769	7,474,000*	15,324*	6.30*	6.77*
1976	496,491	482,882	8,278,400	17,144	6.96	7.49
1977	501,389	482,731	8,939,400	18,518	7.51	8.15
1978 est. ...	490,300	470,400	9,535,000	20,270	8.22	8.84

*Adjusted to include retroactive increases.

1 Includes Amtrak beginning in 1971 and Auto-Train for years 1972-77.

2 Excludes Amtrak and Auto-Train.

to do after NMB did withdraw in December.

In the meantime, BRAC also touched off the first major rail strike in seven years in '77, walking out July 10 on NW, in a dispute mainly over scope and job security. NW fought back, kept on running, and increased operations as the strike went on. NW was receiving payments under the industry's strike-insurance program, and BRAC finally used this as a reason to spread the walkout across the country in September. Court action was taken by both sides, and BRAC came up a winner on one count, with lower courts saying that it was not barred from striking participants in the insurance program and the U.S. Supreme Court declining to review. The strike, against NW and elsewhere, was finally ended by creation of an emergency board and a follow-up court order; the board had made its report by the end of '78, but as '79 began NW and BRAC had reached no agreement on that report (which, like most emergency-board reports and recommendations, cut a piece of cake for both sides).

As noted, on work-rules with the operating brotherhoods (primarily the United Transportation Union), it was another case of fire-and-fall-back on the national scene. Two roads, however—Milwaukee Road and Conrail—did reach crew-consist agreements with UTU, agreements that provided for operations with conductor and one brakeman under certain circumstances but provided financial considerations that labor-relations officers on a number of other roads regarded as way out of line; more to their liking was a crew-consist agreement arrived at by Canadian National and UTU, for CN western lines, which had fewer limitations and a definite cap on the financial considerations.

Legislation and regulation

Though there was no 5R Act in 1978 to follow up on the 3R and 4R Acts, railroads did come out of the year with a few gains, at least two of them of substantial significance. One gain had to do with coal slurry pipelines, another with the Corps of Engineers and its waterways-improvement projects.

On coal slurry, there were times during the year when it seemed that powerful backers of eminent domain for coal pipelines would inevitably have their way in Congress, despite the opposition of the rail industry, environmentalists, and westerners concerned about water supplies. But when eminent domain finally did come to a vote in the House, it was crushed by an 85-vote margin that surprised just about everybody who had presumably been close to the situation.

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Index of wage rates and material prices—1967-1978

(Average 1967 = 100)

Year	Wage Index	Wage rates and supplements	Price index Fuel	Price index Other material	Price index Total material	Index of wage rates and prices	Wage rates and prices including supplements
1967.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968.....	105.1	106.3	103.5	102.6	102.7	104.7	105.7
1969.....	112.2	113.6	106.7	105.5	105.8	110.9	112.3
1970.....	122.7*	125.6*	110.5	109.4	109.7	120.2*	123.0*
1971.....	136.8*	139.4*	114.6	113.5	113.7	131.2*	133.7*
1972.....	149.5	153.4	117.1	118.7	118.1	141.8	145.6
1973.....	164.4	173.9	136.5	122.9	126.7	155.2	163.5
1974.....	173.4	189.1	272.0	142.1	178.9	174.7	186.8
1975.....	190.8*	207.1*	321.9	190.2	227.2	202.2*	212.6*
1976.....	210.7	232.0	350.1	203.2	244.5	221.3	235.4
1977.....	227.3	251.6	389.6	217.2	265.3	239.2	255.4
1978 (prel).	250.8	275.0	406.6	230.6	279.9	259.9	276.3

*Reflects inclusion of retroactive wage increases.

Capital expenditures and retained funds—1967-1978

Year	Gross capital expenditures Rolling stock (millions)	Other facilities (millions)	Total (millions)	Retained funds* (millions)	Excess of capital expenditures over retained funds (millions)
1967	$1,148	$374	$1,523	$ 817	$ 706
1968	819	368	1,187	829	358
1969	1,089	421	1,509	816	694
1970	993	358	1,351	618	733
1971	864	314	1,178	784	394
1972	848	368	1,216	923	293
1973	893	449	1,342	964	378
1974	1,038	527	1,565	1,091	475
1975	1,303	486	1,790	622	1,168
1976	1,175	550	1,725	683	1,042
1977	1,540	751	2,290	763	1,527
12 mos. to 9/30/78 .	1,759	811	2,570	585	1,985

*Retained funds represent income before extraordinary items, plus deferred taxes and depreciation and retirement charges, less cash dividends and equity in undistributed earnings and affiliated companies.

Note: Capital expenditures of Class I railroads do not include expenditures for railroad equipment made by private car companies and lessors. In 1978, private spending was expected to exceed $1 billion.

New and rebuilt equipment installed—1967-1978

Year	Freight cars	Passenger-train cars	Diesel-electric units
1967	99,914	168	1,109
1968	68,568	103	982
1969	75,661	265	1,241
1970	75,136	318	1,093
1971	60,633	281	1,276
1972	49,983	347	1,577
1973	59,170	92	1,339
1974	67,409	100	1,282
1975	73,992	272	810
1976	53,630	358	568
1977	53,817	158	996
1978 est.	67,000	n.a.	1,300

n.a. Not available.

Note: Freight-car installations include cars of all railroads and private car lines. Passenger-train car and diesel-electric unit installations include Amtrak and Auto-Train beginning in 1972.

On waterways, Congress imposed the first user charges in the history of the Republic. The bill passed by Congress and signed by President Carter was a compromise, but it set precedent: Commercial operators using publicly built and maintained waterways will now have to pay something, in the form of a fuel tax that will begin at four cents a gallon in 1980 and rise to 10 cents in 1985, with the tax revenue going into a trust fund for new projects and rehabilitation of waterways. AAR noted that while the charges will bring back less than one-fifth of the annual government subsidy for building and maintaining waterways facilities, the legislation does represent "a marked and positive change in federal policy." Included in the bill was authorization for a new lock and dam at Alton, Ill., the L&D 26 about which so much has been heard over the past several years since the Army Engineers began pushing for a new Alton facility that many saw as just a first step in rebuilding and enlarging the whole Mississippi River and Illinois Waterway navigational system at public expense. (As the year ended, the Corps was under heavy fire on yet another waterways project, the Tennessee-Tombigbee project, on which opposition has been led by Louisville & Nashville and environmentalists; on Tenn-Tom, documents appeared to show, the Engineers were going well beyond what Congress had authorized.)

In other legislative action, Congress (1) authorized $190 million a year for four years for rail-highway crossing safety installations, plus $360 million for demonstration projects involving relocation of track in congested urban areas, that authorization also running through 1982; (2) extended the subsidy program for state programs for rehabilitation of branch lines that otherwise would be abandoned, and for providing transitional operating subsidies; and (3) tacked an amendment onto the local assistance measure that reinstated the so-called yo-yo rate-flexibility provision of the 4R Act, but with a market-dominance provision still attached—a provision on which railroads and ICC have never been able to agree.

On the regulatory side, '78 was a mixed bag, as usual. On the one hand, ICC seemed determined to inject itself even more deeply into the managerial decision-making process, as with its orders as to how empty-car movement should be handled. On the other hand, the commission did back away from its long-held view that contract rates are not lawful, and it did propose (in response to a filing by Southern Pacific) that fresh fruits and vegetables moved by rail be exempt from regulation (as they and other agricultural commodities have been when moved by other modes of transportation).

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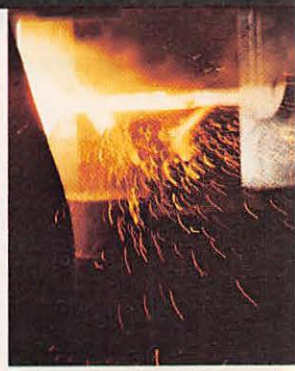
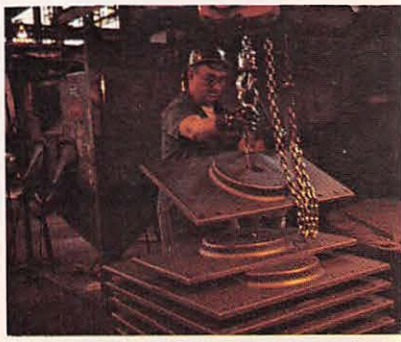


Body center plate at moment of forging impact.



Wing type, heavy duty body center plates after shot blast cleaning.

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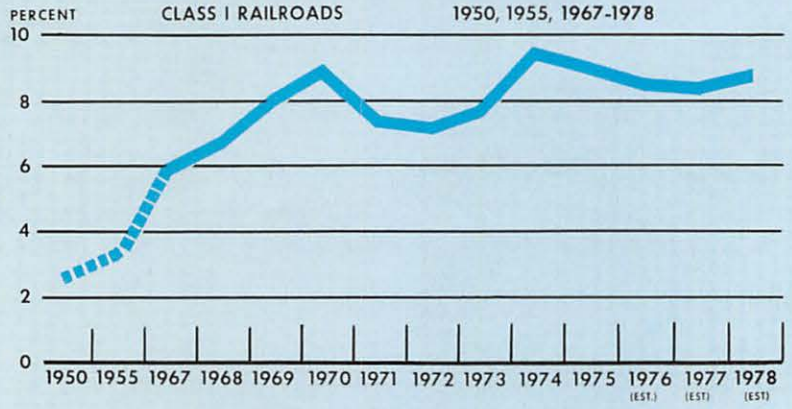
Average interest rates on equipment obligations issued



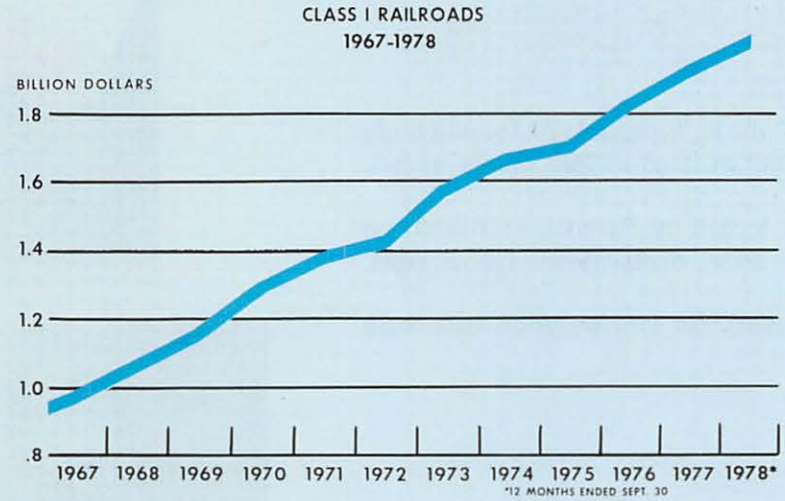
Equipment obligations

Year	Issued during year (millions)	Retired during year (millions)	Outstanding at end of year (millions)	Average interest rate on equipment obligations issued during year	Average interest rate on equipment obligations Out-standing
1967	$ 757	$493	$4,154	5.83%	4.87%
1968	541	494	4,203	6.61	5.15
1969	633	531	4,316	7.90	5.64
1970	676	542	4,444	8.76	6.09
1971	675	578	4,545	7.31	6.30
1972	619	561	4,587	7.04	6.72
1973	557	546	4,596	7.66	6.97
1974	685	564	4,725	9.22	7.37
1975	1,036	580	5,179	8.86	*e*7.60
1976	819	622	5,363	*e*8.50	*e*7.70
1977	940	663	5,600	*e*8.05	*e*7.75

e Estimated

Note: Average interest rates shown include prime rate at time of issuance on certain conditional sales agreements tied to prime rates in each year. The rate for these obligations would increase or decrease with changes in the prime rate.

Interest charges and equipment net rents payable



During much of '78, "deregulation" was a hot topic, with airlines being largely deregulated as to fares and routes, proposals being advanced for trucking deregulation, and proposals taking shape for rail deregulation. Late last year, a rail options paper was prepared by DOT, and while it presented options ranging all the way from total deregulation to maintaining most of the present controls, it also offered a number of in-betweens on such matters as ICC's maximum-rate authority; discrimination; the filing of seasonal, regional, and peak-period rates; rate-bureau antitrust exemptions; and railroad merger with or acquisition of motor or water carriers (something the DOT paper appears to favor). At year-end, railroads themselves were still debating what position to take when the deregulation issue comes up, as it surely will.

Transportation policy

In keeping with past practice, various agencies filled 1978 with the results of various transportation studies—but the net result, while positive for railroads in various ways, was not the development of a coherent, cohesive, national transportation policy.

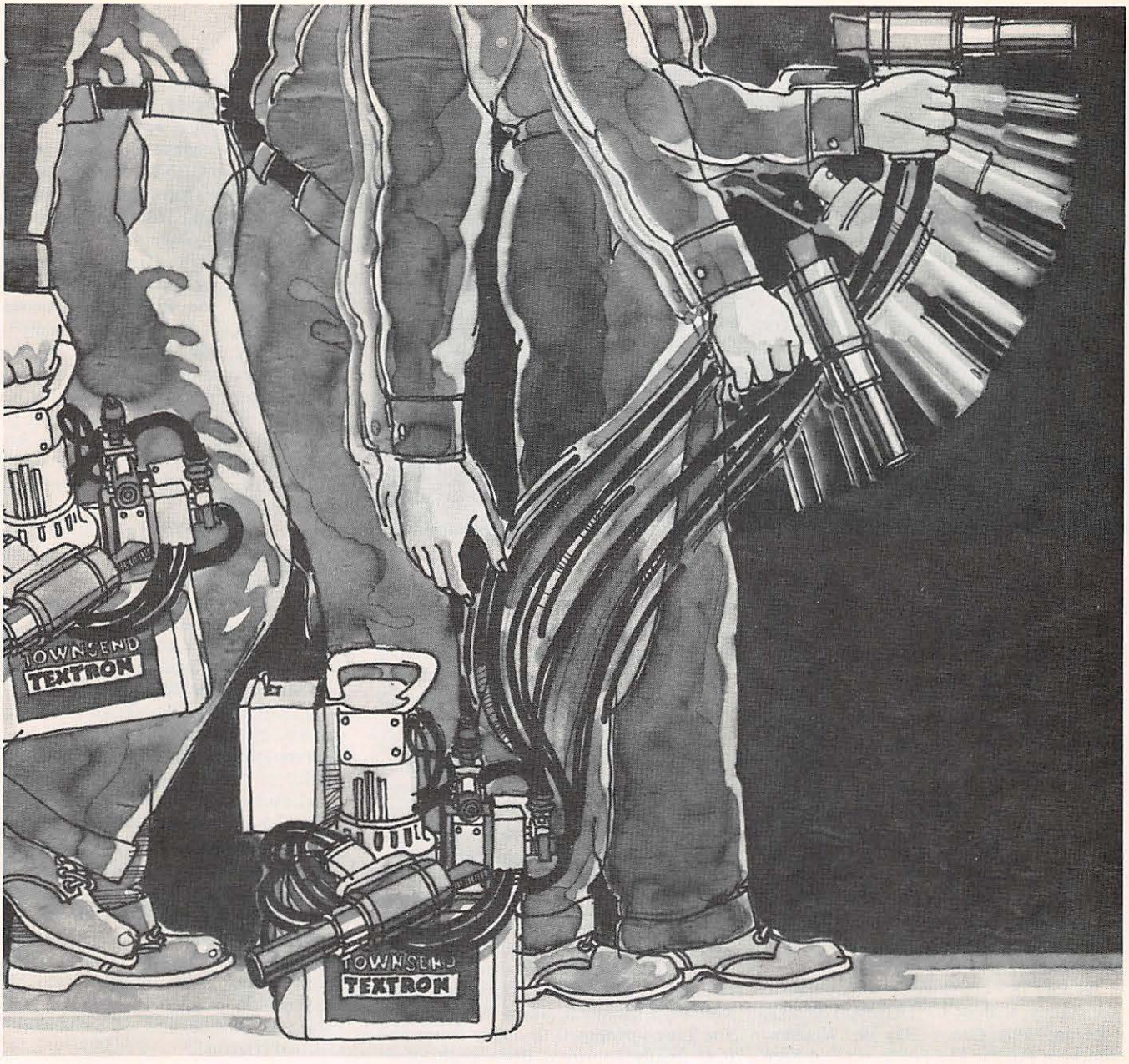
On the plus side, (1) the totally free ride for bargelines was ended; (2) an Office of Technology Assessment study indicated that railroads can, indeed, handle projected growth in coal traffic; (3) Congress decided to reject eminent domain for coal slurry pipelines, thus voting against what would amount to carte blanche for pipeline promoters to superimpose their systems upon an already-adequate coal-transportation network of railroads; and (4) DOT did find that railroads have significant capital needs well beyond their capabilities under the present scheme of things.

On the minus side, (1) ICC, railroads argued, continued to dig in against allowing the kind of regulatory flexibility the 4R Act was supposed to provide; (2) the capital-needs study came up fuzzy in a number of areas; and (3) the Carter Administration, like others before it, simply did not seem to regard transportation as something deserving a very high priority.

That last item, many observers believed, held the key—and, those same observers believed, nothing much will happen until this Administration, or some Administration, recognizes that without adequate transportation the country goes back to cottage industry, and that without healthy railroads there will not be adequate transportation.

Merger activity

Spurred on by economic considerations—and perhaps encouraged by 4R Act provi-



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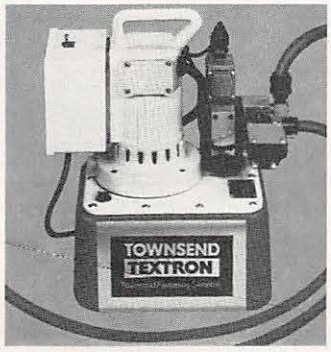

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Inventory of equipment—1967-1978

December 31	Freight cars*	Passenger cars (incl. Pullman)	Head-end passenger-train cars	Diesel locomotive units	Other locomotive units
1967	1,822,381	9,903	8,707	27,309	378
1968	1,800,375	8,601	6,583	27,017	359
1969	1,791,736	8,343	4,083	26,714	319
1970	1,784,181	7,953	3,224	26,796	290
1971	1,762,135	6,804	1,909	26,897	292
1972	1,716,937	6,541	1,048	27,070	294
1973	1,710,659	6,270	919	27,550	250
1974	1,720,573	6,077	771	27,857	227
1975	1,723,605	5,834	637	27,846	225
1976	1,699,027	4,879	599	27,368	229
1977	1,666,533	4,907	605	27,450	217
1978 est.	1,651,000	n.a.	n.a.	27,400	215

*All cars, railroad and private. n.a. Not available.

Note: Figures shown for passenger equipment include National Railroad Passenger Corp. (Amtrak) beginning with 1971. Number of locomotives shown includes Amtrak beginning with 1972 and Auto-Train Corp. for years 1972-77. Beginning with the year 1972, the number of freight cars is based on a revised series. (TRAIN).

sions requiring ICC to rule on applications within a specified time—railroads made 1978 a year of activity on the merger/consolidation/acquisition front, a year of activity and one of controversy in a couple of instances.

Farthest along at year-end was the proposed merger of Burlington Northern and Frisco, on which a decision is due by late July 1980. Less far advanced was another major proposal involving Chessie System and Seaboard Coast Line Industries, but that case was expected to go before the commission early in '79. Less certain as '78 ended was the status of yet a third major study, this one involving possible acquisition of Illinois Central Gulf by Southern.

As for '78's controversies, they had to do, mainly, with SCLI; Detroit, Toledo & Ironton; and Green Bay & Western. Southern Pacific and Seaboard had been discussing a consolidation, and SP had become a substantial holder of SCLI stock, but in May Seaboard broke off the talks and sought to block SP from making further stock acquisitions. SCLI then began talking with Chessie in September and quickly came to an agreement that was approved unanimously by directors of the two companies in November.

Chessie was also involved in the DT&I affair, seeking to acquire the road jointly with Norfolk & Western—a move objected to by Grand Trunk Western, which filed its own application to get control of DT&I and Detroit & Toledo Shore Line.

For Green Bay & Western, on the other hand, '78 appeared to settle its future after many months in which GB&W seemed to be the most sought-after property in the country. BN had sought to acquire the road; three other roads—Milwaukee, Chicago & North Western, and Soo Line—proposed to divide it up; and ICC finally approved BN's application. But by the time the commission gave its OK to BN in 1977, other bids had been made for GB&W. Calling the whole affair a "classic case of regulatory lag," BN then decided it was too late to close the deal and withdrew its offer. Competition to pick up GB&W then involved Itel Corp. and Brae Corp., but Brae dropped out in March and ICC finally approved Itel's plan in October.

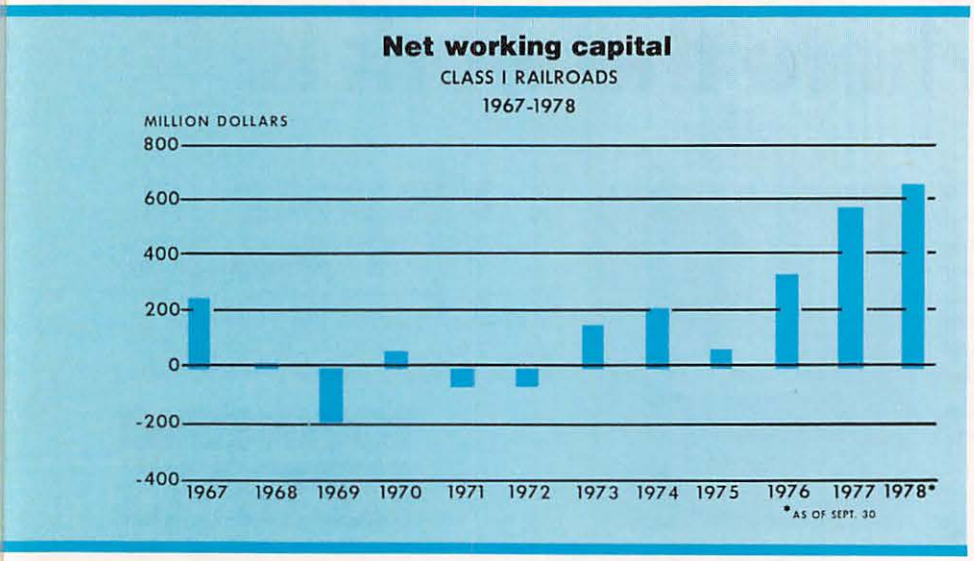
Meanwhile, '78 also saw Southern Pacific and Rock Island agreeing on SP's purchase of the Rock's line between Santa Rosa, N.M., and St. Louis via Kansas City (966 miles for $57 million), and an application was filed on the last working day of the year. In another matter involving possible acquisition of part of a bankrupt carrier, Milwaukee Road and Union Pacific were discussing UP takeover of certain Milwaukee lines west of Butte, Mont.

As for what ICC will actually take into account in its handling of consolidation applications, a lengthy study resulted Dec. 27 in issuance of guidelines which, the commission said, did not necessarily create "a binding norm." In any event, ICC said that in addition to statutory requirements it would also be looking at such matters as continuation of essential service, increases in operating efficiency, elimination of redundant facilities, the ability of the merged system to attract new business, the financial viability of the proposed new system, and the maintaining of competition between modes and among railroads in cases where economic realities make that possible. ICC also said it did not regard the merger process as a proper means for maintaining the systems of weak and marginal carriers or protecting them from bankruptcy: "The Commission is concerned with the preservation of service, not of companies or railroad systems."

Reorganization

While bankrupt Rock Island and Milwaukee Road struggled toward development of reorganization plans in 1978, the biggest bankrupt of them all came out of bankruptcy, but not as a transportation company: Penn Central Corp. came into being in October as the reorganized successor to Penn Central Transportation Co., which had been in bankruptcy for eight years. PCC and wholly-owned Pennsylvania Co. have operations in the real estate, energy, and recreation fields.

Rock Island, meanwhile, continued to make progress in a number of areas, adding new equipment and rehabilitating track (in significant instances, with shipper help). For part of the year, it attained profitability, and it obtained another extension (into 1979) on development of a reorganization plan. But the judge overseeing RI's proceedings in bankruptcy appeared to be wanting faster progress. Yet



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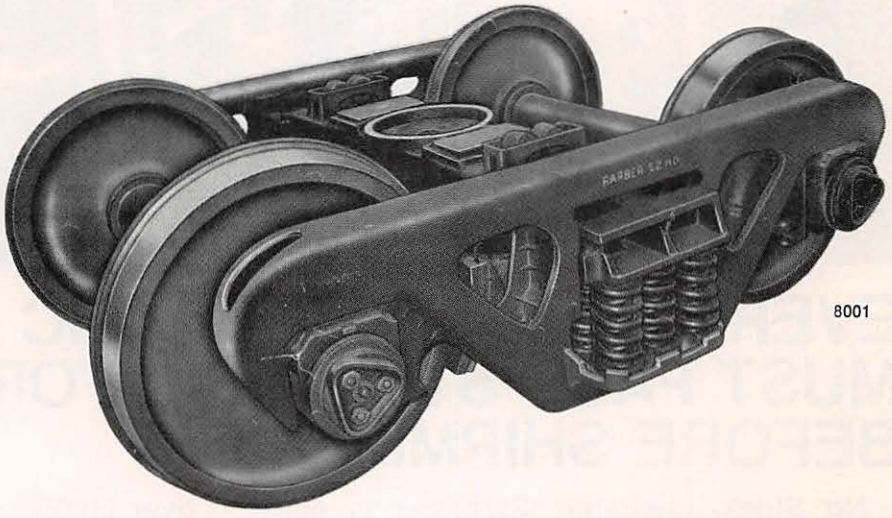

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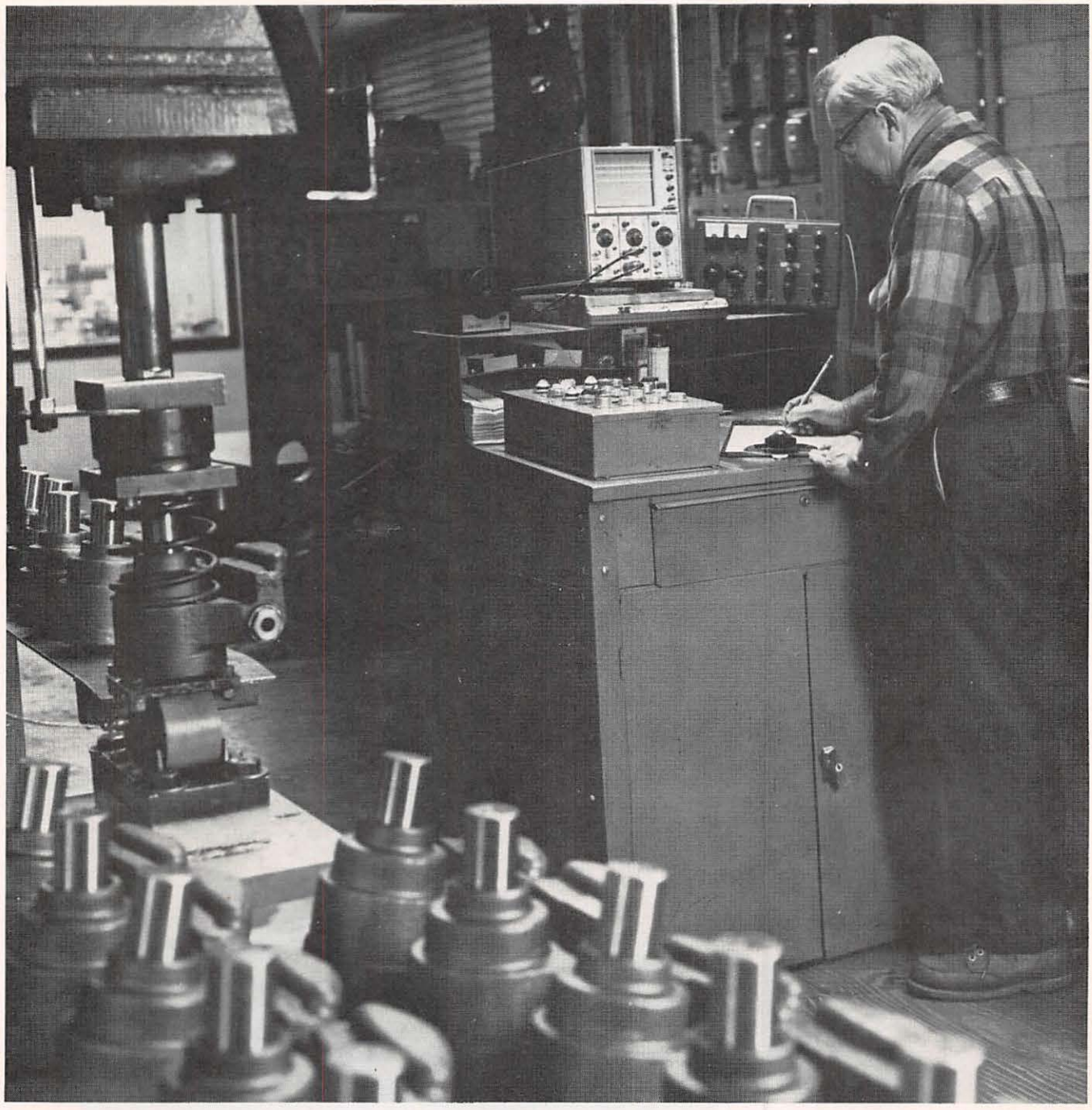

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to be assessed, too, was the impact of the year-end filing involving SP purchase of the Rock's line between New Mexico and Kansas City and St. Louis, a purchase that seemed certain to be opposed by other western roads.

For Milwaukee Road, the end of '78 marked the end of its first year under court protection, and its trustee was moving quickly toward a determination as to how the company could be reorganized. One thing that seemed certain was that Milwaukee's Pacific Extension would not be a part of the plan; negotiations were begun with Union Pacific for sale of certain lines west of Butte, Mont., but it was the entire line west from the Twin Cities that appeared to have no place in a viable reorganization.

Net working capital

Dec. 31	Current assets (millions)	Current liabilities *a* (millions)	Net working capital *a* (millions)
1967	$3,094	$2,844	$251
1968	3,130	3,116	14
1969	3,379	3,563	Def. 185
1970	3,583	3,524	59
1971	3,586	3,648	Def. 62
1972	3,612	3,672	Def. 61
1973	4,056	3,898	158
1974	4,553	4,334	220
1975	4,641	4,573	68
1976	5,293	4,950	343
1977	5,986	5,415	571
9/30/78	5,844	5,177	667

a Current liabilities and net working capital are restated to include debt due within one year as prescribed in the new U.S.O.A., effective Jan. 1, 1978.

Conrail

Under the 3R Act, Congress provided more than $2 billion in assistance for what would be the largest railroad rehabilitation program ever undertaken, the rehabilitation of the bankrupt carriers that became Conrail in 1976. Since it came into being, CR has been on or ahead of schedule with its roadway and track rehab work, but rolling stock proved to be another kind of problem: Inherited motive power and freight-car equipment were found to be in worse shape than originally thought. Thus, the road was faced with the need for substantially increased spending both for new equipment and for rehabilitation. To meet that need (and others), Congress in '78 authorized an additional $1.2 billion in assistance.

With the added financing, CR indicated in a five-year business plan, it could forecast its first profit in 1980, despite projections that five-year freight revenues will fall $1.7 billion short of Final System Plan estimates and that equipment and plant expenditures will top FSP estimates by more than $677 million. Overall, CR projected five-year spending of $3.9 billion for equipment and plant improvements.

Conrail said it expected costs during the period to reflect significant improvements in productivity, improvements stemming from both capital and noncapital programs and from work-rule changes. CR also undertook a comprehensive study of its traffic base and the economic requirements involved in its becoming self-sustaining. What the study indicated, among other things, was that an end to economic regulation would reduce the need for government investment and improve CR's chances of becoming self-sustaining.

In relations with its unions, CR continued to make progress, but at a price. By year-end, the road had reached single class and craft agreements with unions representing more than half of its contract employees. It also came to agreement in '78 with the United Transportation Union on crew-consist and on a schedule providing for establishing a single contract by Sept. 1, 1979, to replace 43 individual UTU contracts inherited from predecessor lines. The crew-consist agreement was similar to one negotiated earlier with UTU by Milwaukee Road, establishing the principle of freight-train operation with one conductor and one brakeman and calling for savings sharing through creation of a special fund and through direct payment to protected employees working as members of reduced crews. Under the agreement to work out a single pact by next September, work rules are to be made uniform across the system.

Safety

A series of derailments involving hazardous commodities put railroad safety under a harsh spotlight early in 1978 and resulted, basically, in a speedup in the schedule for retrofitting certain types of tank cars with shelf couplers, headshields, and thermal insulation, and in the removal of certain high-carbon wheels from cars used to transport hazardous materials.

Actually, one of the derailments was apparently the result of sabotage, and in another case involving multiple fatalities the disaster occurred long after the derailment itself, coming during cleanup operations. But the National Transportation Safety Board and FRA switched the spotlight on, and the new orders came out.

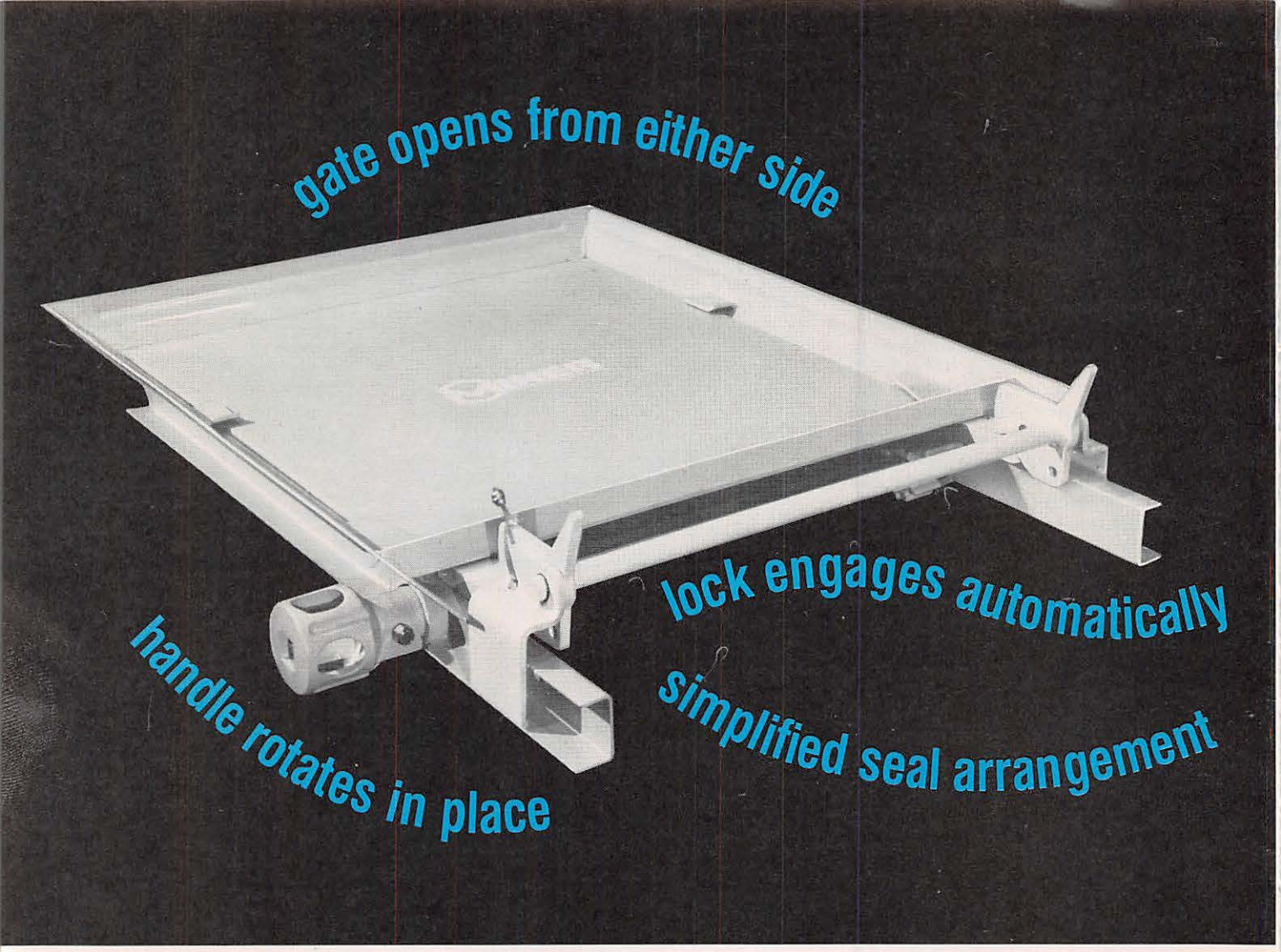
In the meantime, statistics cited by NTSB itself indicated there were other places where the spotlight should be aimed. Those statistics indicated that while only 2.4% of all transportation accidents involve carriage of hazardous materials, 91% of those accidents, 75% of the injuries, and 80% of the fatalities happen on highways and involve motor vehicles.

On a more positive note, the Harriman Memorial Awards for employee safety were presented once again in 1978 and the winner of the gold medal in the top category (based on man-hours worked) was Santa Fe, for the fifth time in six years.

Passenger service

A year ago, Amtrak looked back on 1977 as its "toughest year"—but then came 1978, and it was hardly any less tough. For one thing, with airlines slashing fares and plenty of gasoline available, fewer people took Amtrak, reversing the trend of recent years; ridership dropped from 19.2 million in fiscal 1977 to 18.9 million last year. For another, the deficit climbed from $482.6 million in fiscal '77 to $488.5 million in '78, with projections that it would reach $510 million in '79. For a third, the five-year, $1.7-billion program for upgrading Northeast Corridor track was running into both schedule and cost problems. And for a fourth, deliveries on Amtrak's on-order fleet of 284 double-deck Superliner cars were way behind schedule, due in large part to a six-month strike that shut down operations at Pullman Standard through March 1978; the first Superliner was not handed over to Amtrak until October.

In the meantime, the passenger railroad's financial problems were leading to proposals, in Congress and at DOT, for drastic cutbacks in operations. In May, DOT came up with its plan, calling for a route-mile reduction from 27,000 miles down to 18,900. By 1984, DOT warned, subsidies for operations alone would amount to about $1 billion a year based



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upon the then-current Amtrak structure; the suggested cutbacks, DOT said, would still permit Amtrak to provide daily service to 160 "major metropolitan areas," including the country's 36 largest cities.

Despite support for curtailment of operations in Congress, however, no action was taken. Congress told DOT to analyze the route structure as a basis for another look at the problem in 1979.

For its part, Amtrak late in the year issued a "statement of mission" calling for establishment of a new relationship with government, in which Amtrak would function "essentially as an operating entity with Congress establishing basic structure and financing." Among other things, Amtrak directors also called for recognition that the corporation is a "public service" rather than a for-profit enterprise. They warned that "if the present situation persists without substantial improvement, there is no reason to believe that Amtrak will survive for much longer in its present form." Discounting the possibility that the intercity passenger system will simply die, they saw it as more likely that it would be "nationalized" if it is not able to improve on existing operations—but then they observed that "there is no reason to believe that Amtrak will run better under the weight of another federal bureaucracy."

A few roads continued to operate non-Amtrak trains in '78, but that situation was changing, too. After trying for most of the year to get permission to drop the "Southern Crescent," Southern reached agreement in December for Amtrak to take over operation of the train in February 1979. Late in the year, Rio Grande applied for ICC permission to discontinue its Denver-Salt Lake City train west of Grand Junction, Colo. And Rock Island got an OK to drop two intrastate passenger operations in Illinois, though efforts were under way to maintain service on one of the two routes. ■

Car and locomotive orders

NOTE: This listing of new freight cars ordered in 1978 was compiled by *Railway Age* from reports submitted by both buyers and builders. Where possible, duplications have been eliminated, but some persist. For example, many builders report other-than-railroad purchasers only as "Various industrial." Most cars purchased by Itel are reported this way by the builder. But Itel, now the biggest single purchaser of cars in the U.S., now furnishes its own report, as does NRUC and a few other large private purchasers. Readers using this table for statistical purposes should note that some of the cars reported under these headings are also included in "Various industrial" listings (which also include many other private purchases not otherwise reported).

1978 FREIGHT-TRAIN CAR ORDERS

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
Aberdeen & Rockfish	180	Box	70	Nov.	—	Evans
Alcoa	15	Cov. hopper	100	Mar.	—	Evans
Amax Coal	94	Gondola	100	Jan.	1979	Greenville
Amtrak	95	Flat	100	Jan.	May	Thrall
Ann Arbor	20	HiCube box	100	Aug.	Nov.	Greenville
Apalachicola Northern	100	Box	70	Nov.	—	Evans
Atchison, Topeka & Santa Fe	200	Box	100	Apr.	July-Aug.'79	FMC
	250	Ins. box	100	Apr.	Aug.-Oct.'79	PACCAR
	125	Box	100	Apr.	Sept. '79	FGE
	150	Box	70	Apr.	Mar.-Apr. '79	FGE
	165	Gondola	100	Apr.	June-July '79	Greenville
	50	Cov. hopper	100	Apr.	May-June '79	GATX
	250	Cov. hopper	100	Apr.	July-Aug.'79	Greenville
	207	Trilevel rack	—	Apr.	Apr.-Aug.	Whitehead & Kales
	132	RD coal	100	—	—	Ortner
Atlantic & Western	25	Box	70	Mar.	—	Evans
Blue Diamond Coal Co.	70	Hopper	100	June	June-Oct.	Norfolk & Western
Boston & Maine	8	Cov. hopper	100	Apr.	Apr.	North American
	20	Cov. hopper	100	May	Dec.'78-Jan.'79	US Ry. Leasing
	10	Airslide Cov. hopper	100	Sept.	Dec.	GATX
	100	Box	70	Nov.	Feb. '79	Pullman Std.
Brae Corp.	600	Box	80	Nov.	—	Evans
Burlington Northern	200	XL box	70	Jan.	July-Aug.	ACF
	1,000	Cov. hopper	100	July	Jan.-May '80	FMC
	15	Air dump	100	Jan.	Aug.	Difco
	500	Cov. hopper	100	Feb.	May-Aug.	Thrall
	500	Cov. hopper	100	Aug.	1979	Pullman Std.
	100	Hopper	100	June	1979	Bethlehem
Central Power & Light	347	Open-top gondola	100	July	Sept.-Oct.'79	FMC
Chessie	565	Cov. hopper	100	Jan.	Sept.	ACF
	16	HiRoof box	100	July	Sept. '79	International Car
	400	Cov. hopper	100	Oct.	Mar.'79	ACF
	1,000	Hopper	100	Oct.	Apr.'79-Jan.'80	Co. Shops
	88	Enc. trilevel rack	—	Mar.	Sept.'79	Whitehead & Kales
Chicago & Illinois Midland	46	Gondola	100	Nov.-Dec.	—	ACF
Chicago & North Western	25	Box	100	Jan.	Oct.	International Car
	300	Box	70	Nov.	Sept. '79	Pullman Std.
	600	Box	70	Nov.	Aug.'80	PACCAR
C&NW *(Cont.)*	600	Cov. hopper	—	Nov.	Feb.'80	Pullman Std.
	500	Hopper	100	Nov.	Feb.'80	Greenville
	150	Gondola	100	Dec.	Jan.'80	Greenville
Chicago Freight Car Leasing Co.	100	Cov. hopper	100	June	July '79	Thrall
	240	Cov. hopper	100	May-Dec.	June'79-Feb.'80	Pullman Std.
Chicago, Milwaukee St. Paul & Pacific	9	Box	100	July	Dec.	FGE
	500	Box	70	Aug.	Feb.'79	Pullman Std.
Chicago, Rock Island & Pacific	1,118	Hopper	100	—	—	Greenville
	429	Cov. hopper	100	—	—	Thrall
	800	Box	100	—	—	Constructora
	68	Box	100	—	—	Evans
	50	Coil steel flat	100	—	—	Portec
	300	Gondola	100	Sept.	—	Thrall
	20	Cov. hopper	100	Sept.	—	ACF
	1,250	Cov. hopper	—	Dec.	Jan.-Mar.'81	FMC
	200	Box	90	Dec.	Oct.-Dec.'80	FMC
Chicago, West Pullman & Southern	5	Gondola	100	Feb.	Feb.	Thrall
Clinchfield	700	Hopper	100	Oct.	Jan.-Apr.'79	Bethlehem
	1	Enc. trilevel auto rack	60	Dec.	Jan.-Mar.'80	Whitehead & Kales
Colorado & Southern	100	Hopper	100	Oct.	1979	Bethlehem
Conrail	1,000	Hopper	100	Jan.	June-Dec.	Pullman Std.
	2,500	Hopper	100	May	May-Dec.	Bethlehem
	500	Hopper	100	Feb.	Apr.'78-Jan.'79	Norfolk & Western
	312	HiCube box	100	Feb.	Mar.-May	Greenville
	162	HiRoof box	100	Aug.	Oct.-Dec.'79	Berwick
	35	Air side sump	100	Jan.	Apr.-May	PACCAR
	400	Coil steel flat	100	Nov.	Apr.-Dec.'79	Portec
	227	Rail Pack Super-structures	70	Feb.	Aug.-Nov.	Portec
	200	Rail Pac Super-structures	70	Jan.	July-Dec.	Whitehead & Kales
Denver & Rio Grande Western	50	Gondola	100	Apr.	Jan.'79	—
	300	Hopper	100	Feb.	Dec.'79-Jan.'79	Bethlehem
	500	Hopper	100	Sept.	June '79	Bethlehem
	100	RBL	100	May	Apr.'79	—
	86	Enc. rack	70	July	May-June '79	—
	150	Cov. hopper	100	Sept.	Mar.'79	—
	11	XL HiRoof box	100	Mar.	Dec.	—
Dolese Bros.	2	Hopper	100	Apr.	Aug.	Greenville
Elgin, Joliet & Eastern	1,000	Gondola	100	Feb.	Apr.-June'80	ACF
Emons Industries	400	Box	70	Apr.	Jan.-Mar.'79	Berwick
	500	Box	70	Sept.	Oct.-Dec.'79	Berwick
	500	Box	70	Dec.	July-Sept.'80	Berwick

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Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
Erie Western	25	Gondola	100	Aug.	Sept. '79	Thrall
Florida East Coast	200	Flat	70	Mar.	Apr.	ACF
	31	Ins. box	70	Aug.-Nov.	—	FGE
	100	RD hopper	100	July	—	Ortner
	16	Flat with auto racks	90	Aug.	—	Pullman Std. & Whitehead & Kales
	6	SafePak enc. trilevel auto rack	90	Jan.	Aug.	Whitehead & Kales
Ford Pool	329	Box	100	Feb.	Aug.-Dec.	Berwick
Fort Worth & Denver	100	Cov. hopper	—	Oct.	1980	Pullman Std.
Genesee & Wyoming	200	Cov. hopper	100	Mar.	Dec.	Pullman Std.
	25	Box	70	Jan.	July	Berwick
Georgetown RR	200	Gondola	100	—	—	Ortner
Grand River Dam Authority	484	Gondola Coalporter	100	Jan.	Nov.	Bethlehem
Grand Trunk Western	100	Cov. hopper	100	June	1979	Pullman Std.
	172	Box	100	Jan.	—	ACF
	65	Flat	70	Aug.-Oct.	1979	Bethlehem
	20	HiCube box	100	Aug.	Nov.	Greenville
Gr. Amer. Mgmt.	500	Gondola	100	Sept.	1980	Bethlehem
Harvey Industries	400	Box	70	Mar.-July	Nov.'79	FMC
Houston Lighting & Power	220	RD gondola	100	Oct.	Feb.-Mar.'79	Berwick
Illinois Central Gulf	154	Box	70	Mar.	June-Aug.	Co. Shops
	100	Woodchip	80	June	Dec.	Co. Shops
	500	Cov. hopper	100	May	Apr.-May'79	Pullman Std.
	23	Cov. hopper	100	June	June'79	Ortner
	400	Coal hopper	100	July	Jan.-Apr.'79	Co. Shops
	100	Pulpwood	70	Sept.	Apr.-May'79	Co. Shops
	50	AirSlide	100	Oct.	Jan.'80	GATX
Illinois Terminal	50	Bulkhead flat	100	Feb.	July	Thrall
Intsel Corp.	110	Hopper	100	Oct.	Jan.-Feb.'79	Norfolk & Western
Island Creek Coal Co.	236	Hopper	100	Nov.	Feb.-Apr.'79	Norfolk & Western
Itel Corp.	1,300	Box	70	Jan.-Mar.	July-Nov.	Pullman Std.
	1,000	Flat	70	Apr.	Oct.'78-Mar.'79	Pullman Std.
	2,000	Box	70	Apr.	1979	Pullman Std.
	1,200	Box	70	Aug.	1980	Pullman Std.
	2,200	Flat	70	Aug.	1980	Pullman Std.
	2,250	Cov. hopper	100	Apr.-Aug.	1979	Pullman Std.
	1,000	Flat	70	Apr.	1979	ACF
	952	Box	100	Apr.-Aug.	Nov.'79-1979	ACF
	600	Box	70	1978	Dec.'78-May'79	ACF
	200	Box	100	Jan.	Apr.	FMC
	2,985	Box	70	Jan.-Sept.	May'78-1979	FMC
	500	Box	70	May	July'79-Jan.'80	Evans
	500	Gondola	100	Dec.	June'80	Evans
	300	Cov. hopper	100	May	May'79	Thrall
	2,300	Cov. hopper	100	July-Nov.	1979	Marine Ind.
	475	Cov. hopper	100	May-June	Jan.-Apr.'79	Portec
	100	Gondola	100	June	Feb.'79	Portec
	200	Hopper	100	Aug.	Jan.'79	Portec
	400	Cov. hopper	100	July	Jan.-June '79	Richmond Tank
	200	Ref. box	70	Oct.	Sept.'79	FGE
	600	Hopper	100	Oct.	Apr.-Oct.'79	Norfolk & Western
	200	Flat	70	Mar.	Dec.	Bethlehem
Kansas City Southern	100	Cov. hopper	100	Sept.	Oct.-Dec.'79	Pullman Std.
	200	Box	100	Sept.	Oct.-Dec.'79	Pullman Std.
	200	Hopper	100	Sept.	July-Sept.'79	Bethlehem
	100	Gondola	100	Sept.	Oct.-Dec.'79	Bethlehem
Lake Superior & Ishpeming	20	Hopper	100	Apr.	Oct.	Greenville
Laurinburg & Southern	100	Box	70	May	May'79	Berwick
Louisiana Midland	16	Gondola	100	Aug.	Sept.'79	Thrall
Louisville & Nashville	100	Box	100	Feb.	Nov.	Pullman Std.
	43	Box	100	May	Dec.	FGE
	183	Enc. bilevel auto rack	60	Mar.-Dec.	Jan.'79-Mar.'80	Whitehead & Kales
Lake Erie, Franklin & Clarion	180	Hopper	100	Feb.	Aug.-Sept.	Greenville
	100	Hopper	100	Oct.	1979	Greenville
	25	Cov. hopper	100	Mar.	—	Evans
	100	Box	70	Apr.	—	Evans
Maine Central	150	Box	75	Sept.	Nov.	FMC
	150	Box	100	Sept.	Aug.'79	FMC
Missouri-Kansas-Texas	100	Cov. hopper	100	Feb.	Feb.	Evans
	100	Hopper	100	Mar.	Nov.	Trinity Ind.
	51	Equip. box	100	Mar.	Dec.	Pacific Fruit Express
MKT *(Cont.)*	100	Cov. hopper	100	Apr.	Oct.'79	ACF
	100	Gondola	100	May	July'79	Ortner
	100	Cov. hopper	100	July	Dec.'79	Pullman Std.
Missouri Pacific	500	Gondola	100	Jan.	June	Constructora
	250	Box	100	Apr.	Oct.	ACF
	300	Cov. hopper	100	Apr.	July	Pullman Std.
	250	Box	70	Mar.	July	PACCAR
	200	Cov. hopper	100	Feb.	May	ACF
	53	HiRoof box	100	May	May'79	PACCAR
	41	HiRoof box	100	Mar.	Jan.'79	Berwick
	1,000	Box	70	Oct.	Apr.'79	Berwick
	1,000	Gondola	100	Sept.-Dec.	Feb.-Sept.'79	Greenville
	500	Hopper	100	Oct.	May'79	Bethlehem
	50	Air dump	100	Sept.	Feb.'79	Difco
	500	Box	100	Dec.	Sept.'79	ACF
	200	Flat	70	Dec.	July'79	Bethlehem
Missouri Public Service	15	Hopper	100	Oct.	1979	Bethlehem
National Ry. Utilization Corp.	1,080	Box	70	Jan.-Oct.	—	NRUC
	1,100	Box	70	Jan.-Oct.	Jan.'78-'79	Berwick
	1,000	Box	70	—	—	USRE
Norfolk & Western	500	Hopper	100	Feb.	Apr.'78-Jan.'79	Co. Shops
	47	Box	100	Oct.	Jan.'79	Berwick
	19	Box	100	Oct.	July-Sept.'79	International Car
	150	Bilevel rack	—	May	Nov.'78-Mar.'79	Darby
	195	Bilevel rack	—	June-Aug.	Apr.-Sept.'79	Whitehead & Kales
	150	Trilevel rack	—	Aug.	July-Aug.'79	Whitehead & Kales
	2	Scale Test	—	Jan.	Mar.	Maxson
	500	Cov. hopper	100	Nov.	Oct.'79-Apr.'80	Co. Shops
North American	360	Cov. hopper	100	1978	—	Butler Mfg. Co.
	950	Tank	—	1978	—	Union Tank
	300	Cov. hopper	100	Feb.	—	Constructora
	2,800	Cov. hopper	100	Feb.-Dec.	Nov.'78-1979	Pullman Std.
	500	Cov. hopper	100	May	1979	Trinity Ind.
	600	Cov. hopper	100	May-Sept.	Oct.'78-Mar.'79	Hawker Siddeley
	200	Cov. hopper	100	July	Aug.-Sept.'79	Greenville
	650	Cov. hopper	100	Sept.	Mar.-June'79	National Steel
	500	Cov. hopper	100	Nov.	Apr.-June'80	Pullman Std.
	300	Cov. hopper	100	Dec.	Aug.-Oct.'79	Greenville
	500	Cov. hopper	100	Oct.	Feb.-Aug.-79	Mechtron
Operating Lease Services	250	Box	70	Apr.	Dec.	Berwick
	100	Box	70	Aug.	Mar.'79	Berwick
	400	Box	70	Dec.	Oct.-Dec.'80	Berwick
PLM, Inc.	460	Hopper	100	Apr.-Sept.	1979	Greenville
	660	Hopper	100	May-Aug.	1979	Bethlehem
Pennsylvania Power & Light	60	Hopper	100	Feb.	Mar.	Bethlehem
Pepco	93	Hopper	100	July	Aug.	Bethlehem
Portland General Electric	230	Gondola	100	Apr.	Dec.'78-Mar.'79	Berwick
Pullman	2,800	Cov. hopper	100	Feb.-Dec.	Nov.'78-June'80	North American
Railbox	1,000	Box	70	Dec.	—	ACF
	1,100	Box	70	May-July	—	ACF
	1,450	Box	70	Apr.	Dec.-78-Apr.'79	FMC
Rex Rys. Inc.	210	Box	70	May-June	—	ACF
Richmond, Fredericksburg & Potomac	100	Cov. hopper	Var.	Aug.	Jan.'80	Thrall
Shamrock Coal	154	RD gondola	100	Oct.	Mar.-Apr.'79	Berwick
St. Louis-San Francisco	180	Hopper	100	Aug.	Mar.-June	Co. Shops
	65	Hopper	100	Nov.	Dec.'79	Bethlehem
	10	Caboose	—	Aug.	Jan.-Mar.'79	Co. Shops
	125	Enc. trilevel rack	—	Aug.	Jan.-Apr.'79	Co. Shops
Santee Cooper S.C. Public Service Authority	154	Hopper	100	Apr.	1979	Bethlehem
Seaboard Coast Line	99	Enc. bilevel	60	Mar.	Apr.'78-Jan.'79	Whitehead & Kales
	100	Box	100	Feb.	Nov.-Dec.	Pullman Std.
	2	Box	100	Nov.	Dec.	FGE
	100	Woodchip Gondola	100	June	May-June'79	Greenville
	575	Cov. hopper	100	Sept.	May-June'79	ACF
	300	Hopper	100	Nov.	Apr.-May'79	Bethlehem
	101	Enc. bilevel	60	Dec.	Oct.-Dec.'79	Whitehead & Kales
	11	Trilevel rack	60	Dec.	Jan.-Mar.'80	Whitehead & Kales

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
Soo Line	175	Cov. hopper	100	Apr.-Sept.	Nov.-79-	Pullman Std.
	100	Gondola	100	Apr.-Sept.	Nov.-79-	Thrall
	100	Flat	70	Apr.-Sept.	Jan.-Mar.'80	Thrall
	120	Box	70	Apr.-Sept.	Apr.-May'79	Co. Shops
Southern	600	Box	70	Aug.	Mar.-May'79	Pullman Std.
	350	Box	100	Aug.	May-Sept.'79	Pullman Std.
	700	Ins-box	70	Aug.	June'79	FGE
	500	Cov. hopper	100	Aug.	July'79	Pullman Std.
	180	Hopper	100	June	May'79	Ortner
	200	Trilevel auto	70	July	Mar.-Apr.'79	Portec
	800	Hopper	100	Aug.	Feb.'79	Greenville
	170	Flat	70	Feb.	Dec.	Thrall
	270	Trilevel auto rack	—	Feb.	Nov.-Dec.	Thrall
Southern Pacific	500	Hopper	100	Feb.	Sept.'78-Jan.'79	Greenville
	500	Hopper	100	July	July-Sept.'79	Greenville
	18	Box	100	Feb.	Jan.'79	Berwick
	175	Gondola	100	Apr.	Jan.-Mar.'79	PACCAR
	1,100	Box	70	May-Aug.	May-Nov.'79	PACCAR
	32	Flat	70	Apr.	Aug.	Pullman Std.
	200	Gondola	100	Apr.	Oct.'78-Jan.'79	Thrall
	700	Box	70	Aug.	May-July'79	FMC
	50	Caboose	50	July	Feb.-Mar.'79	International Car
	550	Flat	70	July	Apr.-May'79	Bethlehem
	50	Flat	100	Aug.	1980	ACF
	500	Hopper	100	July	Aug.-Oct.'79	ACF
	700	Box	70	Aug.	Oct.-Dec.'79	ACF
	700	Box	70	Aug.	Aug.-Oct.'79	Pullman Std.
	400	Flat	100	Sept.	May-Oct.'79	Thrall
	75	Trilevel auto rack	—	Feb.	Oct.	Thrall
System Fuels	1,100	Gondola Coalporter	100	Nov.	1979-80	Bethlehem
Texas South-Eastern	120	Box	70	June	May'79	FMC
Trailer Train	500	Flat	55	Feb.	May-Sept.	Pullman Std.
	700	Flat	70	May-June	Aug.-Dec.	Pullman Std.
	700	Flat	70	Jan.-May	—	ACF
	1,000	Flat	70	Feb.	Oct.	Bethlehem
	1,700	Flat	70	Apr.	1979	Bethlehem
	300	Bulkhead flat	100	June	Oct.'79	Thrall
Trumix Concrete	25	Hopper	100	Mar.	Aug.	Greenville
Union Pacific	600	Cov. hopper	100	July	Sept.-Nov.	Pullman Std.
	400	Cov. hopper	100	Oct.	Jan.'79	ACF
	100	Caboose	50	Oct.	Mar.-Apr.'79	International Car
	25	Cov. hopper	100	Dec.	July'79	GATX
	100	Flat	100	Dec.	Feb.'80	Portec
	1,050	Hopper	100	Sept.	Jan.-Aug.'79	Co. Shops
	600	Gondola	100	Dec.	Aug.-Dec.'79	Co. Shops
	175	Hopper	100	Dec.	Oct.'79	Bethlehem
U.S. Ry. Leasing	1,864	Cov. hopper	100	1978	—	Evans
	1,300	Box	70	1978	—	Evans
	210	SideSlider	70	1978	—	Evans
	177	Tank	100	May.-Dec.	—	Evans
	120	Gondola	100	Dec.	—	Evans
Various industrials	9,275	Cov. hopper	100	Jan.-Nov.	June-Nov.	Pullman Std.
	7,850	Box	70	Apr.-Nov.	1979	Pullman Std.
	1,000	Hopper	100	Jan.	Oct.-Dec.	Pullman Std.
	117	Gondola	100	Jan.	1979	Pullman Std.
	2,000	Flat	70	June	Nov.'78-1979	Pullman Std.
	200	Box	70	June	Oct.'79	FMC
	3,094	Tank	—	—	—	Various
	904	Gondola	100	—	—	Ortner
	24	RD limestone	100	—	—	Ortner
	502	RD coal	100	—	—	Ortner
	147	RD aggregate	100	—	—	Ortner
	215	Bulkhead flat	100	Jan.-Feb	Feb.-June	Thrall
	934	Cov. hopper	Var.	Apr.-June	Mar.-July'79	Thrall
	110	Cov. hopper	Var.	Sept.-Dec.	Dec.'79-Feb.'80	Thrall
	2,291	Coal	100	Jan.-Dec.	Mar.'78-1981	Thrall
	5,840	Cov. hopper	100	1978	—	ACF
	1,804	Tank	100	1978	—	ACF
	1,650	Box	70	1978	—	ACF
	402	Box	100	1978	—	ACF
	380	Gondola	100	1978	—	ACF
	1,200	Flat	70	1978	—	ACF
Western Pacific	50	Cov. hopper	100	Sept.	—	ACF
	100	Box	70	Jan.	Sept.'79	FMC
	100	Box	70	July	Dec.'79	FMC
	8	Cov. Hopper	100	May	Aug.	GATX
	100	Box	70	Nov.	Jan.'80	PACCAR
	75	Ballast	100	Nov.	Aug.'79	Portec
	5	Enc. trilevel	70	Nov.	Aug.'79	Whitehead & Kales
	30	Bilevel	70	Nov.	Aug.'79	Whitehead & Kales
Williams Bros.	15	Hopper	100	May	Sept.	Greenville

1978 FREIGHT-TRAIN CAR ORDERS—CANADA

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
British Columbia	196	Bulkhead flat	70	May	Oct.	Marine Ind.
Canadian General Transit	860	Cov. hopper	100	May-Dec.	Dec.'78-Apr.'79	Hawker Siddeley
Canadian National	80	HiCube box	100	Feb.	Oct.-Nov.	Greenville
	35	Box	70	Feb.	Oct.-Nov.	International Car
	58	Caboose	—	—	Sept.-Dec.	Co. Shops.
	1	Spike puller	—	—	Jan.	Co. Shops
Canadian Pacific	90	Highway trailer flat	50	Feb.	May-June	Marine Ind.
	100	Container flat	100	Nov.	June-July'79	Marine Ind.
	9	Box	100	Oct.	Nov.	Berwick
	100	Newsprint box	70	Nov.	Oct.-Dec.'79	National Steel
	37	Box	100	Dec.	Oct.-Dec.'79	FGE
	51	Gondola	100	Dec.	Oct.'79	Hawker-Siddeley
	20	Box	70	Mar.	Nov.-Dec.	International Car
National Steel	80	Hopper	100	Oct.	1979	Greenville

1978 DOMESTIC LOCOMOTIVE ORDERS

Purchaser	No.	Type	Horse-power	Order Date	Delivery Date	Builder
Amtrak	2	B-B	2,700	Jan.	1979	Bombardier
Atchison, Topeka & Santa Fe	54	C-C	3,000	—	Sept.-Nov.	EMD
	35	C-C	3,000	—	Apr.-June	GE
	26	B-B	2,250	—	Apr.-July	GE
	13	C-C	3,000	—	May-June	EMD
	13	B-B	2,300	—	May-June	EMD
Burlington Northern	64	C-C	3,000	July	Sept.-Dec.	EMD
Chessie	20	B-B	3,000	July	Jan. '79	GE
	60	B-B	3,000	Apr.-June	1979	EMD
Chicago & North Western	2	—	1,100	—	Nov.	GE
Clinchfield	2	B-B	2,000	Oct.	May '79	EMD
	6	C-C	3,000	Oct.	Sept. '79	EMD
Conrail	67	B-B	2,250	Feb.-Apr.	Apr.-Sept.	GE
	57	B-B	2,250	Dec.	Jan.-Sept. '79	GE
	75	B-B	2,000	Jan.-Mar.	Apr.-Dec.	EMD
	33	B-B	3,000	Jan.	Apr.-June	EMD
	42	C-C	3,000	Mar.	July-Dec.	EMD
	100	B-B	1,500	Dec.	July-Dec. '79	EMD
	42	C-C	3,000	Dec.	July-Dec. '79	EMD
	40	B-B	3,000	Dec.	Apr.-Sept. '79	EMD
	26	B-B	2,000	Dec.	Apr.-June '79	EMD
Denver & Rio Grande Western	12	C-C	3,000	Jan.	Aug.-Sept.	EMD
Detroit, Toledo & Ironton	4	B-B	3,000	Aug.	Oct.-Dec. '79	EMD
Florida East Coast	5	B-B	2,000	Oct.	—	EMD
Georgia	2	B-B	2,000	Nov.	May-June '79	EMD
Kansas City Southern	8	C-C	3,000	Jan.-Oct.	July'78-Dec.'79	EMD
	2	B-B	2,000	Jan.	July	EMD
	2	B-B	3,000	Oct.	July-Dec. '79	EMD
Louisville & Nashville	20	B-B	2,000	Sept.	Feb.-May '79	EMD
	16	C-C	3,000	Aug.	Feb.-Mar. '79	GE
	34	C-C	3,000	Sept.	Mar.-June '79	EMD
Missouri-Kansas-Texas	4	C-C	3,000	Mar.	Oct.	EMD
	8	C-C	3,000	Aug.	Oct. '79	EMD
Missouri Pacific	50	C-C	3,000	Jan.	Aug.-Sept.	EMD
	20	B-B	2,250	June	Nov.	GE
	70	C-C	3,000	Dec.	Apr.-May '79	EMD
	30	B-B	1,500	Dec.	July '79	EMD
Norfolk & Western	80	C-C	3,000	Apr.	Nov.'78-Oct.'79	GE
St. Louis-San Francisco	25	B-B	3,000	July	Apr.-June '79	EMD
	4	C-C	2,000	July	June '79	EMD
Seaboard Coast Line	15	B-B	2,250	July	Oct.	GE
	16	C-C	3,000	Aug.	Mar.-Aug. '79	GE
	27	C-C	3,000	Oct.	June-Sept. '79	EMD
Soo Line	20	B-B	2,000	1978	May-July '79	EMD
Southern	26	C-C	3,000	Oct.	Feb.-May '79	EMD
	45	B-B	1,500	Oct.	Aug.-Oct. '79	EMD
Southern Pacific	135	—	3,000	July	Nov.'78-June'79	EMD
	60	—	3,000	July	Feb.-May '79	GE
Texas Mexican	1	B-B	2,000	Aug.	Oct.-Dec. '79	EMD

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1978 DOMESTIC LOCOMOTIVE ORDERS *(Cont.)*

Purchaser	No.	Type	Horse-power	Order Date	Delivery Date	Builder
Union Pacific	120	C-C	3,000	July-Dec.	Dec.'78-Sept.'79	EMD
	30	C-C	3,000	July	Dec.'78-Jan.'79	GE
Western Pacific	5	B-B	3,000	Aug.	Aug.'79	EMD

1978 LOCOMOTIVE ORDERS—CANADA

Purchaser	No.	Type	Horse-power	Order Date	Delivery Date	Builder
Canadian National	10	B-B	2,000	Aug.	Apr.-Sept. '80	Bombardier
Canadian Pacific	25	C-C	3,000	Apr.	Nov.'78-Jan.'79	GM Diesel
Devco	4	B-B	2,000	1978	1979	GM Diesel
Saskatchewan Power	2	B-B	1,000	1978	1978	GM Diesel
Via Rail	22	B-B	2,700	Jan.	1980	Bombardier

1978 EXPORT LOCOMOTIVE ORDERS

Purchaser	No.	Type	Horse-power	Order Date	Delivery Date	Builder
Altos Hornos de Mexico	5	B-B	1,000	Feb.-Nov.	Nov.'78-July'79	EMD
	2	B-B	2,000	Feb.	Oct.	EMD
	1	B-B	1,500	Sept.	Dec.	EMD
Bangladesh	12	C-C	2,000	1978	1980	GM Diesel
Botswana	2	B-B	1,000	—	—	GE
Brazil	3	B-B	1,000	—	—	GE
Cameroun Regifercam	20	C-C	2,000	Oct.	1979	Bombardier
Chihuahua al Pacifico	10	B-B	2,000	Sept.	Feb. '79	EMD
Costa Rica	5	B-B	1,000	—	—	GE
	10	B-B	1,100	—	—	GE
Egypt	65	B-B	1,500	1978	1979	GM Diesel
Industrial Minera. Mexico	1	B-B	1,500	Oct.	Sept. '79	EMD
Israel Rys.	4	C-C	2,200/2,000	June	Nov.	EMD
Ivory Coast	19	C-C	2,250	1978	1979	GM Diesel
	1	B-B	600	—	—	GE
Malawi Rys	16	C-C	1,500	Apr.	1979	Bombardier
Mexico	13	B-B	2,300	—	—	GE
	30	C-C	3,000	—	—	GE
Mozambique	25	C-C	2,000	—	—	GE
National of Mexico	10	B-B	2,000	Sept.	Mar. '79	EMD
	52	B-B	2,400	Aug.	1980	Bombardier
Negev Phosph. Ltd. Israel	1	B-B	1,100/1,000	Jan.	Oct.	EMD
New Zealand	10	C-C	1,500	1978	1979	GM Diesel
Pacifico (Mex.)	16	B-B	2,400	Sept.	1980	Bombardier
Pakistan	30	C-C	1,500	1978	1979	GM Diesel
Senegal	2	C-C	2,250	1978	1979	GM diesel
Sonora Baja California de Mexico	2	B-B	3,000	Oct.	Dec. '79	EMD
	1	B-B	2,400	Oct.	1980	Bombardier
South Africa	50	C-C	2,600	—	—	GE
Sureste (Mex.)	3	B-B	2,400	Aug.	1980	Bombardier
Taiwan	10	C-C	4,200	—	—	GE
Tanzania	15	C-C	2,000	Apr.	1979	Bombardier
Togo	3	C-C	1,500	1978	1979	GM Diesel
Yugoslavia	6	C-C	2,000	1978	1980	GM Diesel

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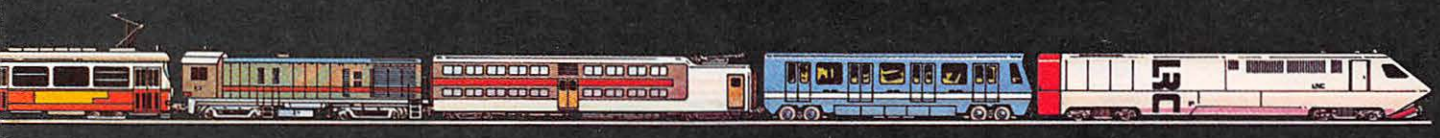

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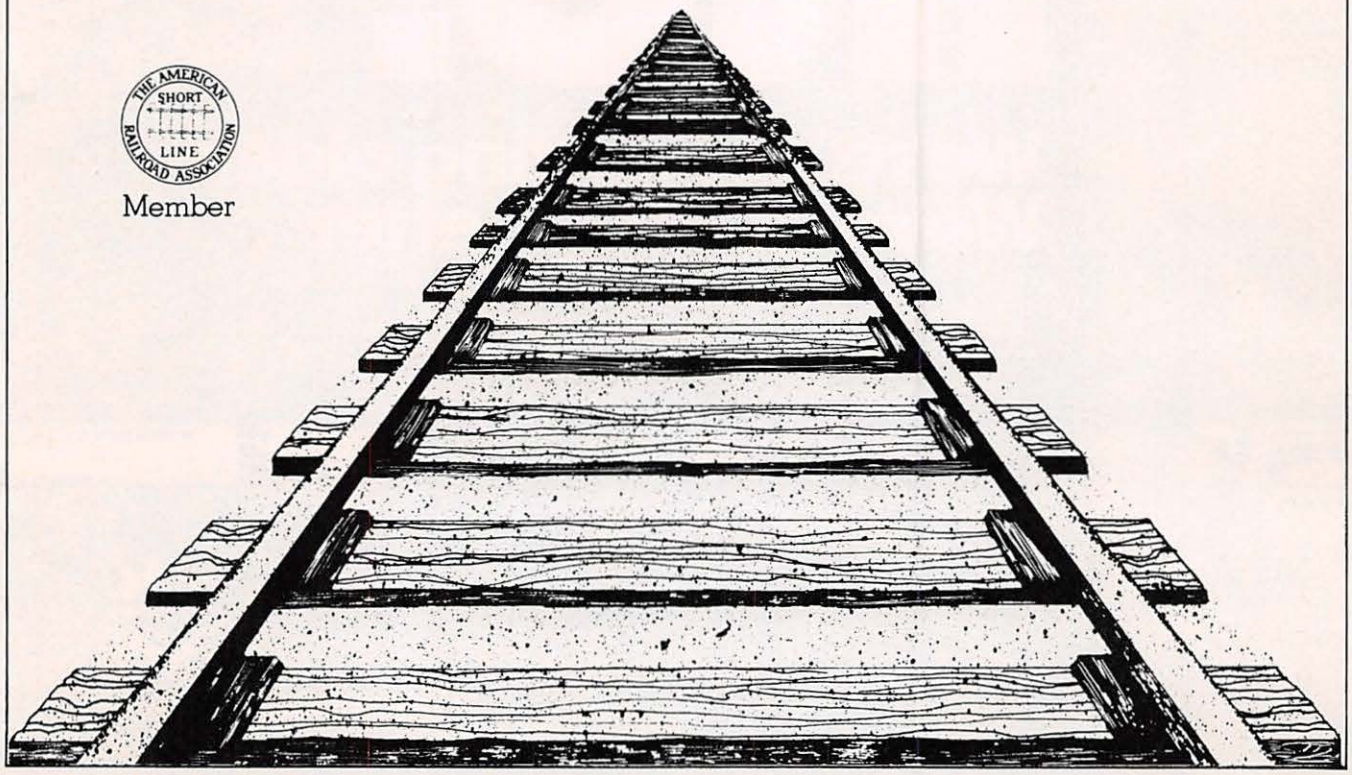
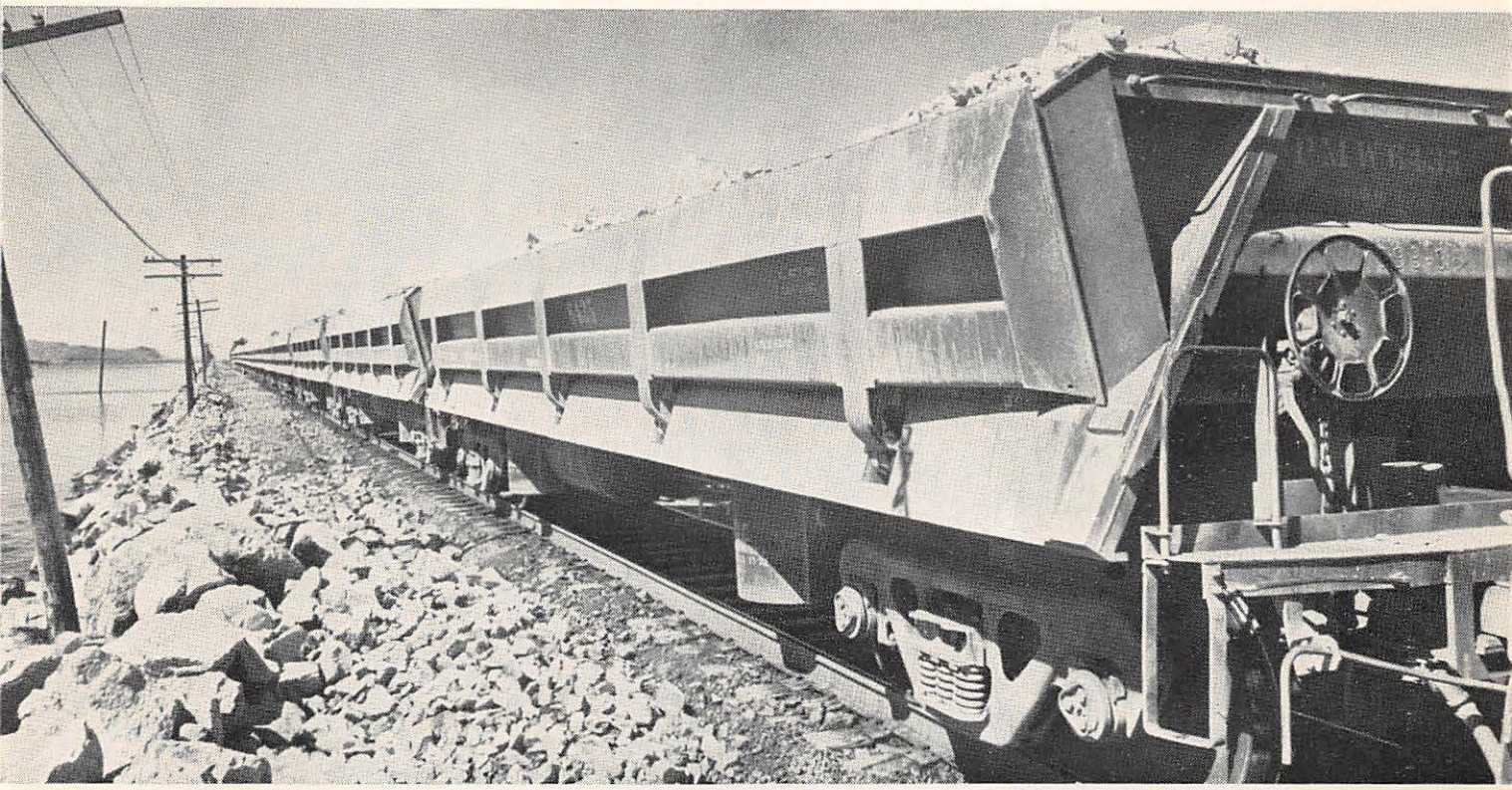
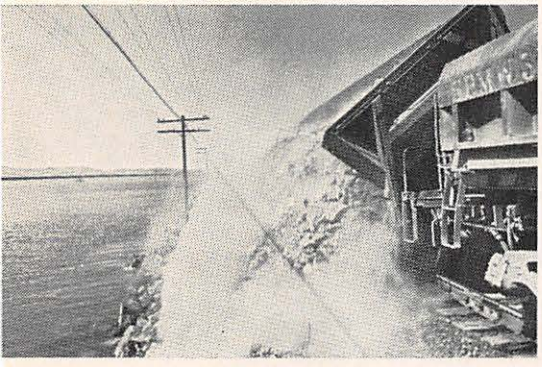
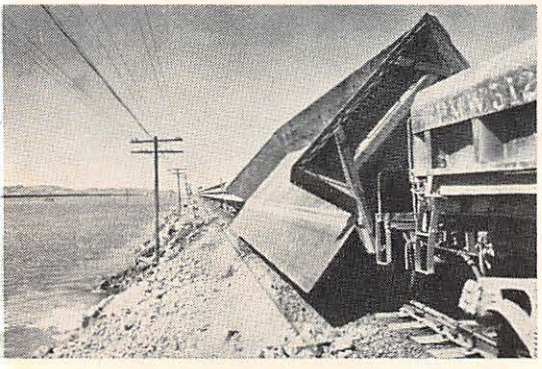


DIFCO DUMP CARS



CUT RIP-RAP COSTS





100-ton Difco air side dump cars* deliver efficiency!

Southern Pacific relies on rugged 100-ton, fifty-cu.-yd. capacity DIFCO dump cars for the toughest heavy-haulage fill jobs—like the Great Salt Lake operation shown above!

Whether it's rip-rap, gravel, dirt or slag, DIFCO stands up to the daily challenge of the heaviest fill loads to deliver increased dumping efficiency to today's modern railroads.

With less deadweight and more payload per car, DIFCO helps minimize time, labor and movement costs.

Designed for dumping to either side, DIFCO cars lift to a self-cleaning fifty degree angle in just seconds, while the automatic down-folding door assures maximum load cast for quick, clean, accurate dumping.

DIFCO air side dump cars are available in a wide range of sizes, built to provide you with DIFCO dumping efficiency whatever your heavy rail haulage requirements. Please call, wire or write your DIFCO representative today for detailed information.

*patented

Remote Controlled DIFCO Loco Trains • DIFCO Payload Locos • Differential Air Dump Cars • "AXLESS" Truck Mine Cars • Locomotives • Rotary Car Dumpers • Wagon Trains

DIFCO, INC., FINDLAY, OHIO 45840 • PHONE 419-422-0525

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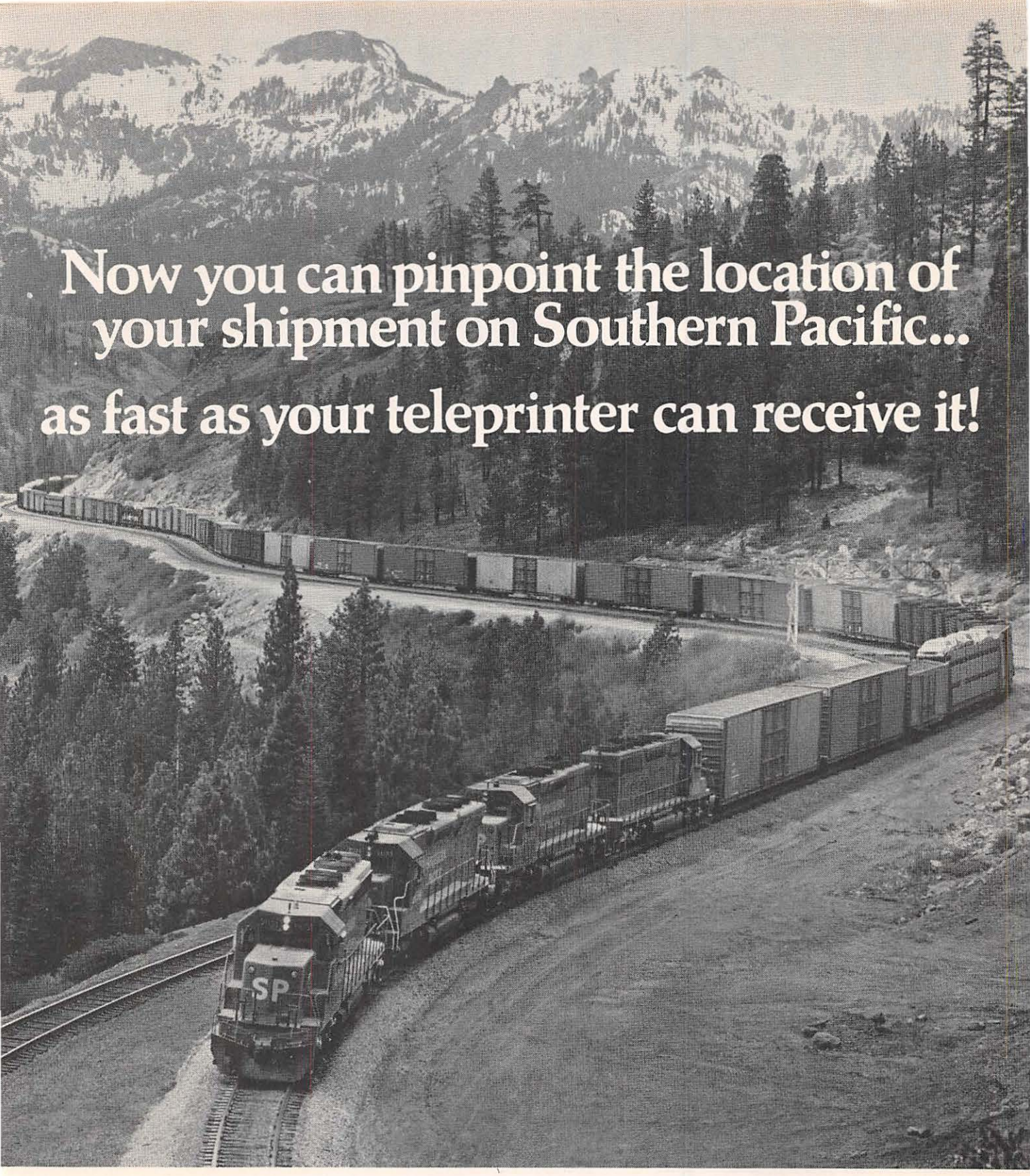
D723



Now you can pinpoint the location of your shipment on Southern Pacific...

as fast as your teleprinter can receive it!

Shippers who route their freight over Southern Pacific now have a new, convenient service at their fingertips.

If you use a TELEX or TWX communication system in your company, you can now use your teleprinter to contact Southern Pacific's TOPS (Total Operations Processing System) computer—*direct.*

By dialing in a Car Location Inquiry (CLI), you'll receive the location and status, or the scale weight, of any specific freight car or up to 100 freight cars.

These up-to-the-minute car location reports are available on demand, as often as you desire.

Hundreds of shipper-customers are now making use of this vital service.

Consider the advantages it will give your company in maintaining your lines of distribution.

Get details on this new CLI car location reporting service from your nearest Southern Pacific sales office.

Southern Pacific
Fast · Dependable · Efficient

Freight-car outlook

(Continued from page 36)

strongly it should be on an equitable basis. We do not enjoy duty-free luxuries when we attempt to sell in such places as Canada. They do, selling here.

"We believe the trend of the large leasing companies getting into the railroad equipment business is a sign of confidence, and their willingness to invest substantial funds seems to support this confidence. This added dimension will assist railroads and shippers and should give the industry a good base for elimination of those notorious up-and-down cycles."

J. C. Janke, vice president, marketing, Westinghouse Air Brake Division, WABCO: "It is possible that we will experience some cancellations due to the increase in prime interest rates; however, we do not believe these will represent a significant number of sets of brake equipment. Shortages of domestic purchased material are expected to continue until third-quarter 1979. Foreign competition is not expected to be a major problem in 1979.

"Orders for new freight cars by nonrailroad purchasers in 1978 were approximately twice those placed by railroads. We believe this trend will continue during 1979, with nonrailroad purchases at approximately 60% of the total orders placed."

R. F. Murphy, vice president, Holland Co., freight equipment division: "Cancellation is always dependent upon any sudden downturn in industry needs . . . associated with either a recession or a labor strike problem. At this point, we do not see any major problems in this area of any long term duration. Material shortages are not expected to be of a major concern."

"Foreign competition is ever lurking over any company engaged in railroad business, but I personally feel that the international dollar devaluation makes domestically produced products far more attractive to a customer than foreign-made items.

"Without question, the importance of the nonrailroad buying influence has hit our industry with great impact. . . . We must learn their language and be able to transmit our technology and service performance to the needs and requirements of the utilities and leasing firms."

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Grand Opening of our new CLEANING FACILITY

FAST TURNAROUND

- Located on Houston Ship Channel within Paktank (sister company) Bulk Liquid Terminal. Served by Houston Port Terminal Rail Road Association (PTRA).
- Cleaning operations independent of repair and testing facility.
- Modern cleaning 6 spot rack, with hot/cold water, hot detergents (2 types), solvent, steam, hot/cold air blow dry.
- Separate 8 spot purging facility with pipeline nitrogen.
- Normal operation — 12 hours/day, 7 days/ week can convert to 24 hour/day operation.
- Computer based scheduling, tracing, work order and billing run by full time traffic coordinator.

ENVIRONMENTALLY APPROVED

- State of Texas permits to handle over 325 products including toxic and odorous ones.
- Environmental safeguards including:
  - Advanced regional treatment system for washwater disposal.
  - Vapor incinerator for odorous and toxic vapors.
  - Vapor compression — condensation system for vapor recovery of LPG, AA; plus flare system.

COST COMPETITIVE

- Modern facility and advanced cleaning techniques cut cleaning time.
- Strategic location can decrease empty mileage tariffs.
- Quick turnaround time reduces lost time revenues.
- Location and association with existing terminalling and environmental operations allows cost effective sharing of common facilities.

REPAIR/TESTING

- Facility adjacent to EMPAK operated by major car manufacturer offering wide range of repairs.
- Company can perform required regulated testing.

EMPAK

Environmental Services Division of Pakhoed USA, INC.

For Further Information Contact: Corporate Offices: Eric Warner (713) 623-0000, 2000 West Loop South, Suite 1800, Houston, Texas 77027 or Operations: Larry Hopper (713) 479-6051, 2759 Battleground Road, Deer Park, Texas 77536

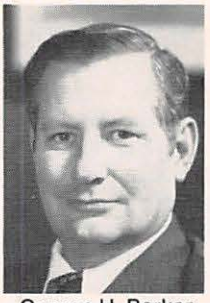
Circle 37 on Reader Service Card

A. Crane Jones Jr.
SCL

M. L. Janovec
M-K-T

Arlene R. Holmes
Soo Line

Thomas F. Kearney
Soo Line



George H. Barker
Soo Line

Richard H. Townsend
Vapor Canada

People in the News

CP RAIL.—G.M. Peretz, manager freight sales, Atlantic Region, appointed manager, market planning, Montreal, and is succeeded by **R.G. Metivier.**

F.A. Louks appointed senior industrial development officer, Easter Region, Toronto, and **Frank DeCarlo** named senior marketing representative there.

DELAWARE & HUDSON.—James R. Williams, director-personnel and employee relations, elected general manager, with responsibility over transportation and mechanical operations.

FAMILY LINES SYSTEM.—A. Crane Jones Jr., assistant vice president, **Louisville & Nashville,** Louisville, Ky., appointed assistant vice president-engineering and maintenance of way, as well as chief engineer, **Seaboard Coast Line,** Jacksonville, Fla. He succeeds **Thomas B. Hutcheson,** who retired.

C.L. Hill, district sales representative, Birmingham, appointed district sales manager, Gadsden, Ala., succeeding **C.L. Methvin, Jr.,** who retired Nov. 30. **R.L. Woodall,** sales representative, Birmingham, succeeds Mr. Hill and is replaced by **H.L. Phillips, Jr.,** sales representative, Columbus. **C.H. Ryan,** assistant regional sales manager, Birmingham, retired Nov. 30 after more than 39 years of service.

GENESEE & WYOMING.—John N. Kiefer, Jr., administrative vice president, Clarks Summit, Pa., retired Jan. 1, because of health reasons.

MISSOURI-KANSAS-TEXAS—M. L. Janovec appointed general manager of the operating department, effective Jan. 1, 1979. Mr. Janovec, who was assistant general manager, will have headquarters in Denison, Tex.

PEORIA & PEKIN UNION.—E.L. Moyers appointed general superintendent, Peoria, Ill. The position of superintendent has been abolished.

SANTA FE.—John P. Frestel, general attorney, named assistant vice president-personnel and labor relations, Chicago, effective Jan. 1, 1979.

R.E. Robinson named assistant general manager-advertising for the railway and vice president of the road's affiliated company, **Advertising Direction, Inc. D.C. Reynolds** appointed assistant to general manager-advertising for the railway and Advertising Direction's assistant vice president and treasurer.

E.H. Aderton, Jr., assistant to manager-agricultural development, Amarillo, Tex., named manager-agricultural development there, succeeding **Ron I. Cross,** who retired Oct., 1, 1978, after 31 years' service. Mr. Aderton's successor is **Ronnie E. Burks. L. A. Turner,** assistant manager-agricultural development, Fresno, Calif., promoted to manager-agricultural development there.

D.M. Miller named superintendent, Los Angeles Terminal division, Los Angeles, to succeed **E.O. Chaddock,** retired.

SOO LINE.—Arlene R. Holmes, administrative assistant to the executive vice president, elected corporate secretary, to succeed **Doris L. Valley,** who retired after 39 years of service.

Robert G. Gehrz, general solicitor, named senior general solicitor. **Byron D. Olsen,** formerly assistant general solicitor and assistant general counsel, **Burlington Northern,** becomes general solicitor.

Thomas F. Kearney, chief mechanical officer, named executive assistant to the vice president-operations, training. Mr. Kearney's successor is **George H. Barker,** formerly works manager of **Southern Pacific's** Sacramento, Calif., heavy locomotive maintenance plant.

SOUTHERN.—Glenn E. Taylor, resident vice president, Birmingham, Ala., appointed resident vice president, Nashville, Tenn. **Richard H. Arrington,** assistant to vice president,

THE KATY CAN

The Katy Railroad for over a century
Has independently operated and
Endured.

Knowing your transportation problems
And taking actions to solve
Them is the Katy's goal all
Year long.

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And see for yourself that the word
Never is not in Katy's vocabulary.

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Sales & Service Department Headquarters
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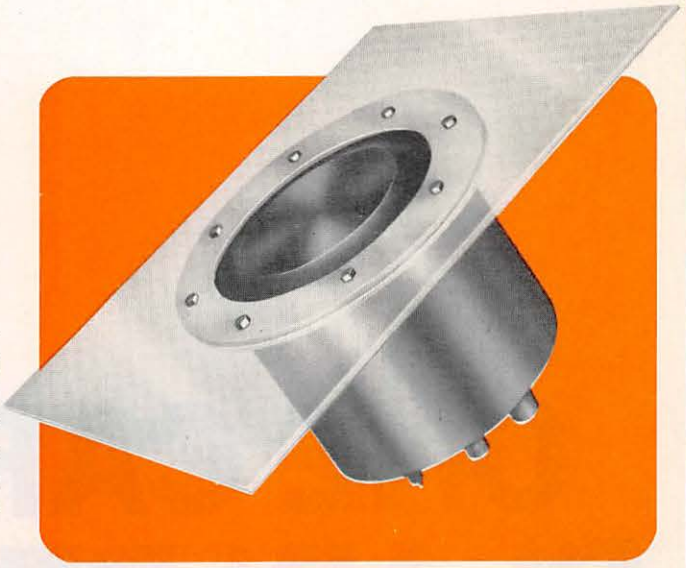
Save Shoe and Wheel Wear Dollars... Install Model 6200 Empty/Load Devices



As the technology applied to original equipment expands to meet the growing demands of our industry the occurence of certain problems are sometimes overlooked or sidestepped. Both the manufacturer and user are faced with problems that need solutions, but at times, the solution is more costly than the problem.

To eliminate a costly problem inexpensively, Ellcon-National has developed an economical Empty/Load Device. This unit will reduce shoe and wheel wear and eliminate one of the greatest causes for slid flat wheels. The cost is less than the cost of a single freight car wheel. Therefore, the prevention of one carset of slid flat wheels saves approximately 8 times the initial cost of our Model 6200 Empty/Load Device.

Model 6200 FEATURES

- Most economical.
- Directly senses loaded or empty car and proportions brake cylinder pressure accordingly.
- Simple and dependable.
- Only one piece to mount and maintain.
- Only one air pipe connection.
- No parts move when brakes are applied.
- No adjustments required to compensate for truck wear and spring sag.
- Not affected by rock and roll.

Most cars are empty half of the time. By braking as hard as a loaded car the empty car does extra work resulting in excessive shoe wear. Installing our device reduces this unnecessary wear and saves your dollars.

Call us at 201-256-7110 for details.

ELLCON NATIONAL inc.

apta Member

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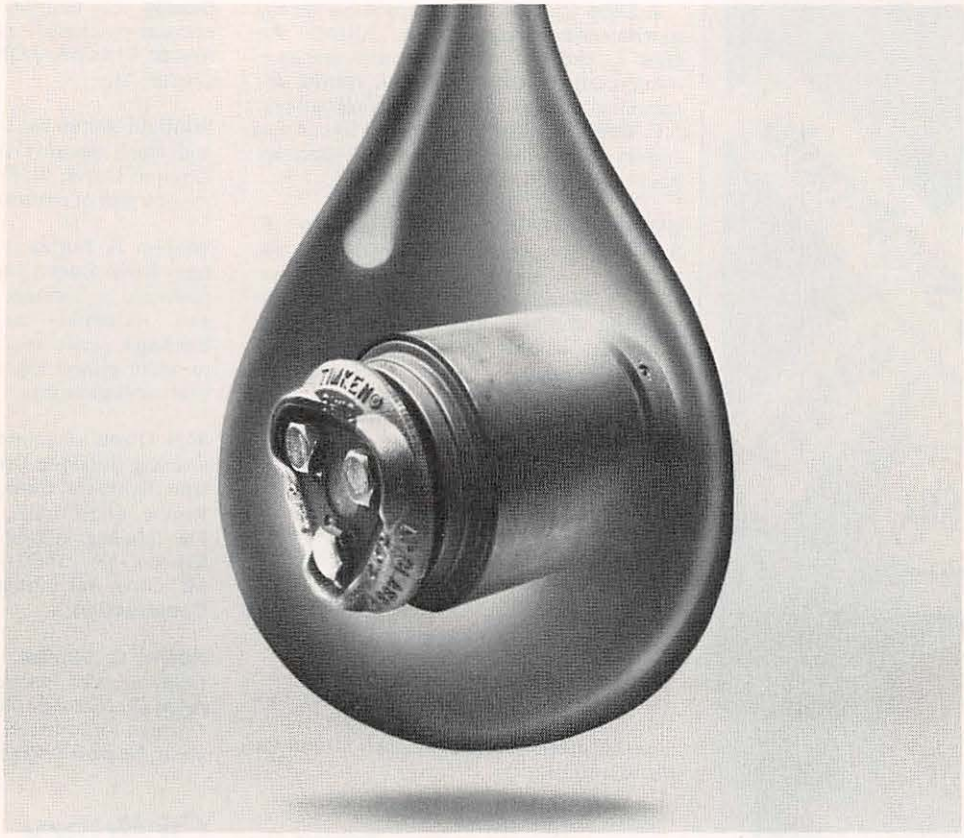
RPI

Circle 12 on Reader Service Card

ONE CAR WITH PLAIN BEARINGS USES AS MUCH LUBRICANT AS 100 WITH NFL ROLLER BEARINGS.



It will come as no surprise to you that plain bearings cost more to lubricate than roller bearings.

Just how much more could be something of a shocker.

To determine the difference in lubricant costs between the two types of bearings, Timken Company engineers combed through page after page of data from the AAR and other sources.

We pinned down how many bearings – plain and roller – were in service across the fleet. How much oil and grease they used on the average. And how much those lubricants cost.

AAR records show there were almost two million plain-bearing-equipped cars in service in North America in 1954, the year Timken "AP" tapered roller bearings were introduced. At 1954's low oil prices, these plain bearings chalked up a lubricant bill for railroads of over $5.6 million.

By 1974, through the foresight of the railroad industry, half of the fleet of 1.7 million cars rolled on roller bearings. In this year, the total railroads spent for oil and grease (at more than triple 1954 prices) was in the neighborhood of $8.5 million. An astonishing $7.98 million – 94% of the total – went to lubricate plain bearings. Only 6% – some $520,000 – went for roller bearings.

The difference: almost $7,500,000.

We took our figures one step further. And concluded that if only 1% of the current fleet were equipped with plain bearings, those few bearings would still use more oil than if the fleet were 100% NFL roller-bearing-equipped.

We think the results of our lubricant cost study are extremely important. We think you will, too. For the complete story, ask your Timken Company sales engineer. Or circle the index card.

The Timken Company, Canton, Ohio 44706.

The company that tapered the bearing can taper your bearing costs.

TIMKEN®
REGISTERED TRADEMARK
TAPERED ROLLER BEARINGS

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Red nylon insert Elastic Stop® nuts have meant fastening integrity since 1947. The American railroad industry was one of the first to recognize and standardize on the superior capabilities of the ESNA® fastener line.

Our 32 year field and laboratory testing of the red nylon insert locking device insures the high quality and safety standards that railroads require. Samples and literature are available on request. Write Dept. T-83.

amerace ESNA DIVISION
AMERACE CORPORATION
ESNA DIVISION, UNION, NEW JERSEY 07083

Circle 41 on Reader Service Card

public affairs, Montgomery, Ala., appointed executive representative, with headquarters in both Montgomery and Birmingham.

J. Earle Greenwood, Jr. appointed general superintendent transportation, Atlanta. **Archie L. Adams** named general manager-transportation, Atlanta. **Ollie J. Harris, Jr.,** appointed terminal trainmaster, Spartanburg, S.C. **Oscar W. Lowe** named road foreman of engines, Greenville, S.C. **James K. Barr** appointed general foreman, Spencer, N.C.

UNION PACIFIC CORP.—William F. Surette, vice president-finance, New York, promoted to senior vice president-finance. **Harry B. Shuttleworth,** treasurer, named vice president and treasurer. **Chester A. Rose,** controller, named vice president and controller.

Suppliers

Richard H. Townsend has been appointed vice president and general manager, **Vapor Canada Limited,** Montreal, succeeding **George H. Coull,** retired. Mr. Townsend was formerly manager of engineering, **Vapor Transportation Systems,** Chicago.

Samuel R. Mosier has been named manager-manufacturing, St. Louis plant, **Amcar Division, ACF Industries, Incorporated.** He was formerly superintendent of assembly, **Thrall Car Manufacturing Co.**

Robert W. Beard, Jr., has been appointed senior plant facilities engineer, **Shippers Car Line Division, ACF Industries, Inc.,** St. Charles, Mo.

Patrick M. Keller, a partner in the Washington Office of **Price Waterhouse & Co.,** has been named chairman of the accounting firm's Mass Transit and Railroad Industry Services Group.

Werner H. Siemens has been appointed manager-railroad engineering, **Kaiser Engineers,** Oakland, Calif. Mr. Siemens worked on the railroad electrification project on the Sishen-Saldanha Line in South Africa and the design portion of the U.S. Department of Transportation test facility in Pueblo, Colo.

Donald E. Gruner has been appointed manager-purchased materials conservation, **Amcar Division, ACF Industries, Inc.,** St. Charles, Mo.

Winfield Shiras has been appointed president and chief executive officer of **Wescom** at Downers Grove, Ill. **R.C. Penny** has assumed the new post of chairman of the board.

William E. Kurtz, chief draftsman, **Bethlehem Steel Corp.,** Bethlehem, Pa., has been promoted to assistant chief engineer, railway and industrial car engineering. **Peter Beckage,** project engineer, has been promoted to senior project engineer, railway and industrial car engineering.

W.B. Owen has joined **Transportation Engineering Services Co.,** a subsidiary of **Safetran Systems Corp.,** as manager-Southern Region, at 3050 S.E. Monroe Street, Stuart, Fla. Mailing address is P.O. Box 6, Port Salerno, Fla. 33492—Phone (305) 283-6220. Mr. Owen was formerly with **Atlas Railroad Construction.**

Robert C. Smykal, Jr. has been appointed technical sales representative, **Durox Equipment Co.,** Strongsville, Ohio. Mr. Smykal was foreman of railroad track repair, Chicago yards, **Norfolk & Western.**

Obituary

Joseph M. Bart, 69, retired assistant to the president, **Chicago & North Western,** died recently in Lutheran General Hospital, Park Ridge, Ill.

Arthur G. Bloom, 90, retired general passenger agent, **Union Pacific,** died recently in Evanston Hospital, Evanston, Ill.

W.A. Eddy, retired general superintendent transportation, **Grand Trunk Western,** died Nov. 23 after a short illness.

We're on the right track

Because our on-board waste sanitation systems surpass tough environmental standards, we're tops with the railroad industry. Units feature stainless steel or vitreous china two-quart toilets. Our vitreous china LF-210 also is ideal for use in ground support facilities. Reduces toilet flush water by 90%.

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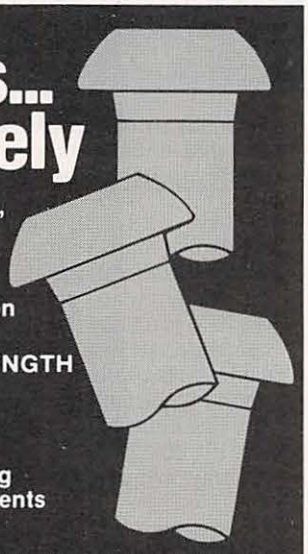
BRAINARD DELIVERS

CCI Rivets... immediately



Besides immediate delivery, Brainard CCI Rivets have a lot going for them:

- COLD DRIVEN...with a "swelled neck" configuration (no annealing)
- HIGHER FATIGUE STRENGTH
- FASTER...3 times faster than driving hot rivets
- QUIETER
- FULL HOLE FILL...leaving no margin for shear movements and possible tear out

Write or call now for additional information and prices.

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STARTING DEPENDABILITY WITH GBC

UniBatt®
unitized
diesel service battery

Two UniBatt batteries will replace eight standard batteries for diesel starting and accessory service. They supply plenty of cranking power and high reserve capacity for dependable, low-maintenance operation. Four way fork lift access simplifies handling.

HI-ROLLER® T.M.
high-capacity
diesel starting battery

Hi-Roller batteries deliver greater diesel-cranking speeds for fast, sure starts, even in cold weather. And they have the extra potential that can supply overnight power for auxiliary equipment. Rugged construction and high impact containers contribute to long, low-maintenance service life.

Keep your rolling stock on the move with these dependable, top-performing batteries from GBC. Write for complete information.

RAILWAY DEPARTMENT
GENERAL BATTERY CORPORATION
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220 Eisenhower Lane, Lombard, IL 60148 (312) 627-3063

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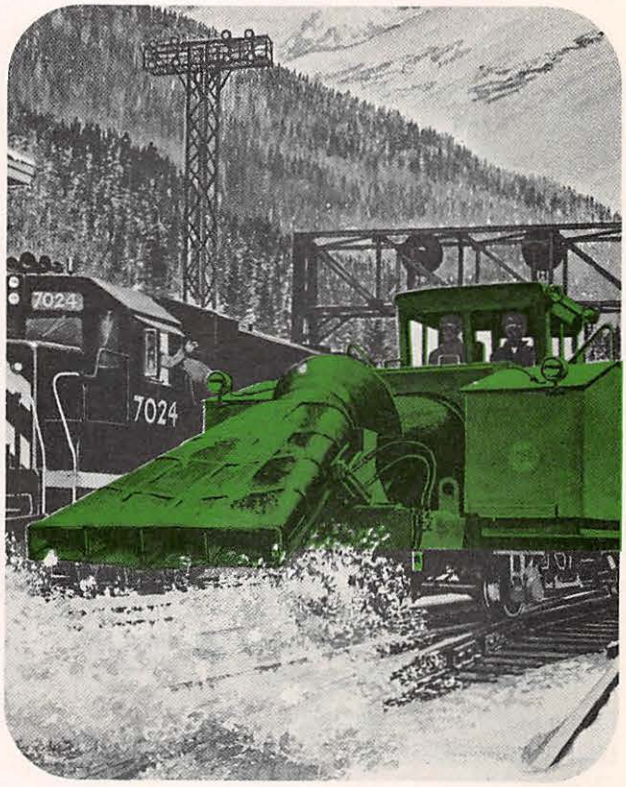
The Rapid PORTEC RMC Snow Remover

The **RMC Hurricane Jet Snow Blower** directs a blast of 650 mph air to the track to clear snow fast. This powerful machine effectively and quickly clears switches, retarders, yards and open track. The Hurricane also is available with special attachments for blowing sand.



PORTEC inc.

RMC Division
P.O. Box 1888
Pittsburgh, Pennsylvania 15230
Telephone: (412) 782-1000

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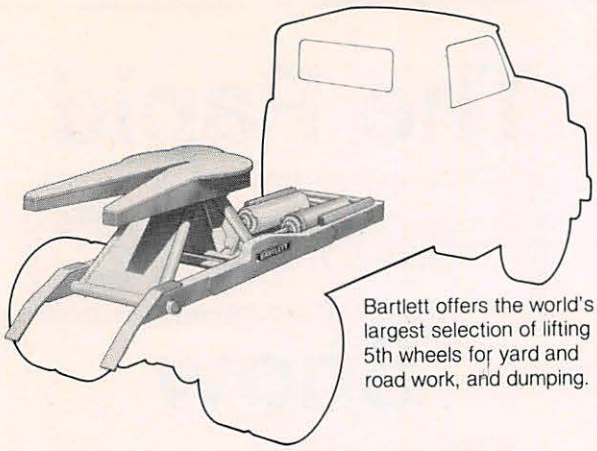

Bartlett offers the world's largest selection of lifting 5th wheels for yard and road work, and dumping.

We're exploding the yard tractor myth

It's a pretty well-known fact that the best yard jockey is better when the buyer specifies a Bartlett lifting 5th wheel.

Many do. Some don't. Why? Because some think a Bartlett won't fit some new makes. Not true.

Fact is, there's a Bartlett 5th wheel for every specialized yard tractor made — regardless of frame dimensions or frame design.

We offer 15 models, including top-of-frame types and lower between frame types to accommodate higher tractor frames. We offer gross weight capacities from 50,000 lbs. to 120,000 lbs.; lifting heights from 12″ to 30″.

Whether you are buying a new yard horse, or are replacing the wheel on an old one, specify a Bartlett 5th wheel. Firms like yours have been doing it for over 25 years. That's why we outsell all others combined. Call collect, or write:

Bartlett Lifting Devices, Inc.
6830 West 63rd Street
Chicago, Illinois 60638
(312) 586-8200

BARTLETT
LIFTING DEVICES, INC.

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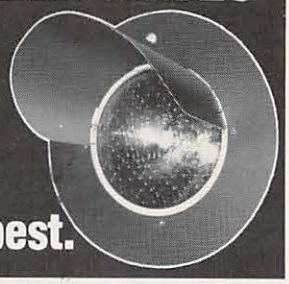
WESTERN-CULLEN-HAYES 12″ Lights

When you are required to use a 12″ Light, use the best.



Take advantage of Western-Cullen-Hayes' many years of experience and reputation for quality products— grade crossing equipment is our business.

W-C-H Type 975 12″ lights were designed and built by combining many years of knowledge and experience in manufacturing signal lights and a thorough familiarity with today's grade crossing requirements. They can be made to fit all standard flashing light signal mounting hardware, and will accommodate any standard crossing signal bulb. More important, W-C-H has damage resistant polycarbonate roundels for mast, cantilever arm and back lights. These are available with a 20°/10°, 30°/15°, 20°/32° or 70° deflections. And, W-C-H is the only company that offers all four.

Write or call your W-C-H representative for more information.

WC Hayes

WESTERN-CULLEN-HAYES, Inc.
2700 West 36th Place • Chicago, Illinois 60632
Telephone: 312/254-9600 • Telex 25-3206

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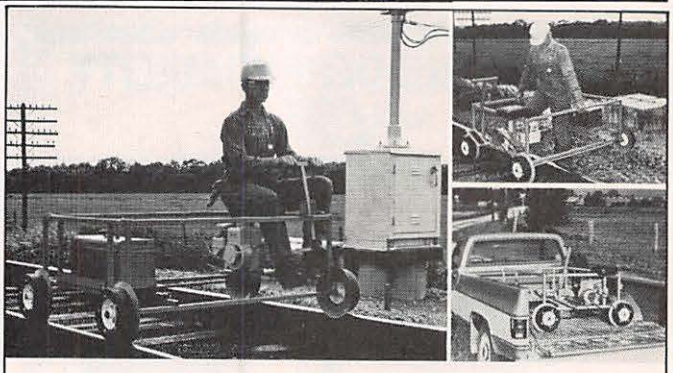

RAIL ROD ... *the one-man track cart that can be carried by one man.*

- **CAN BE CARRIED AND HANDLED EASILY** — Totally insulated. Will not activate switches.
- **SAFETY CLUTCH AND BRAKE SYSTEM** — When clutch is released, brake is automatically applied.
- **TWO-WHEEL DRIVE** — Slides into pick-up bed — no disassembling necessary.
- **RUGGED CONSTRUCTION** — Minimum maintenance required.
- **FOLDS UP FOR SHIPPING AND STORAGE**
- **NOW IN USE ON MAJOR CLASS ONE RAILROADS**

THE RAILS CO.
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Circle 48 on Reader Service Card

100 YEARS AGO IN

(Jan. 16, 23, and 30, 1879)

It is the opinion of the Chicago Commercial Advertiser that "Wm. H. Vanderbilt is rapidly placing himself in the attitude of a public enemy through his grasping ambition to become the possessor of all the great lines of communication upon which the trade of the country depends, by his efforts to crush out competition and by his recent acquisitions of important railway lines." The same paper seems to have the opinion also that all men who build railways or who invest good money in railway bonds which generally are not good, or who allow themselves to be elected officers of railways are public enemies. It does not matter with these captious journals that Mr. Vanderbilt and others have given the public a magnificent system of transportation, and are maintaining it at lower rates than were dreamed of a few years ago; it does not matter that the amalgamation of rival lines proves a great benefit to the public by preventing not only the injurious fluctuations which result from unchecked competition, but the excessive charges by which roads, after suffering from a ruinous war, are often compelled to recover their costs. The fact that Mr. Vanderbilt has acquired important lines makes him a public enemy. Would it not be just as fair and sensible to wait until rates are made excessive, or facilities are diminished, or discriminations are practiced, all as a result of these recent acquisitions, before making this assumption? It is the easiest thing in the world to play upon the natural jealousy of mankind toward any man who acquires wealth or power, but it is not honest to indulge in denunciation when there are no facts to support it. The public does not appear to have anything to complain of in regard to Mr. Vanderbilt's railway management. Perhaps that is what the fault finding papers don't like.

* * *

This is the time of year when bills "to establish maximum rates for the transportation of freight and passengers" are to be looked for in the various state legislatures. The disease generally attacks new members from agricultural communities and, like the measles in a family, it has to go around. It only needs trial, however, to prove the practical impossibility of fixing an arbitrary limit by law to prices of anything, from bread to transportation, and the more a member of the legislature learns on the subject of railway management, the less competent he will feel to settle the intricate question of rates.

* * *

The success of the two elevated railways in New York, which are already doing an immense business, with the prospect of large profits, has stimulated projects for similar enterprises in New York, Brooklyn, Philadelphia, Boston and Chicago. That passengers can be transported on elevated roads swiftly, safely, cheaply and comfortably is sufficiently demonstrated. The only objections appear to be the noise of the trains, which will probably be greatly diminished, and the damage to property on the streets appropriated, and even about this latter objection opinions differ. In some cities with long, straight streets and deep lots, like Chicago, it would seem to be practicable to build the roads over the alleys, which would obviate the chief cause of opposition on the part of property owners. The next few years will doubtless see a great advancement in the methods of transportation in cities.

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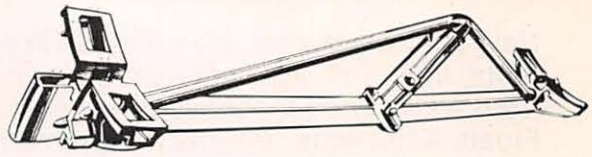

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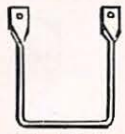

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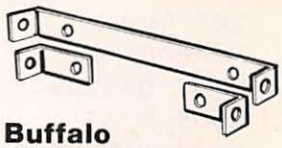

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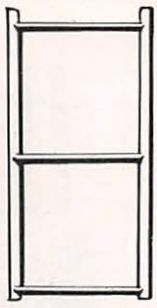

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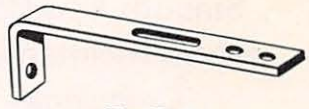

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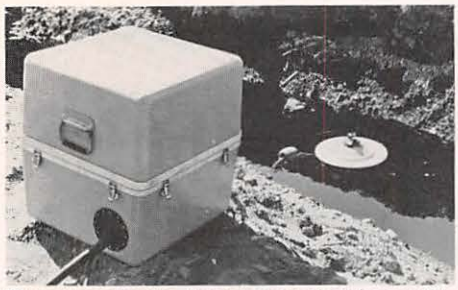

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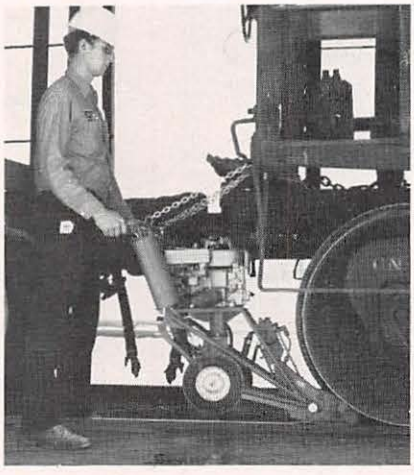

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Letters

Freight-car trucks

Sharon, Pa.

To the Editor:

I wish to express our extreme pleasure and satisfaction with your article regarding premium freight-car trucks (RA, Dec., 11, p. 14). I believe John Armstrong did an excellent presentation in a manner which made it understandable to those other than engineers. We believe the premium truck has to be appreciated and accepted in the years to come; and that our Swing Motion will have proven credentials for the occasion.

R.H. Brautigan
Product Manager
National Castings Div.,
Midland-Ross Corp.

Bethlehem, Pa.

To the Editor:

I expect that your article on freight-car trucks attracted a large audience. As I read it, I developed the following comments.

I was pleased to see that you referred correctly to the DR-1 as a retrofit. However, there is a problem with the verb tense. You indicated that the arms "can be" designed to fit a standard truck. Actually they "are" so designed. The 25 car sets now in trial service are all retrofits. It may be that the true status of the DR-1 is not clear because of TDOP's choice to list the DR-1 as a "Type II" truck rather than as an "add on" in their preliminary report. The problem is that the DR-1 fits both categories. It is an "add on" and it gives the existing truck "Type II" performance.

There are a few technical points in the article that might confuse a reader whose background in truck technology is limited.

In Diagram 6, it is said that the axles of the DR-1 steer under the influence of "conicity and side thrust." I myself am not sure what was meant by "side thrust," but I would understand the diagram if the term "side thrust" were replaced by "lateral forces exchanged between the two steering arms." Many readers might interpret side thrust to mean unbalanced centrifugal force. This would be unfortunate, because the DR-1 is deliberately designed to minimize the effects of lateral forces between the car body and the truck.

With reference to Figure 4, I found it strange to be reading about "flange free curving" as an attribute of a parallel axle truck. To the best of my knowledge, the term "flange free" was introduced in reference to steerable (radial) axles. Actually, as theoretical and experimental work on truck curving performance progresses, the term "flange free" is proving

to be a poor term. Flange contact can only be positively identified with new AAR profile wheel treads. In service, wheels quickly lose this profile. In lieu of a readily identifiable flange contact there is a rapid change in the direction of the wheel/rail reaction. It then becomes a matter of interpretation where flange contact can be said to occur. Furthermore, if we look at the "flange free" situation for new wheels, it turns out that with conventional parallel axle trucks, flange contact will occur on curves as gradual as ½ degree. On the other hand, a free wheelset (radial) will first experience flange contact at about 4 degrees. Furthermore, as explained below, flange contact (force) per se should not be considered the main criterion for curving performance. Angle of attack is much more significant.

Truck curving was discussed in some detail at the San Francisco ASME meeting. Marcotte, Caldwell, and the writer reported on the curving tests of the DR-1 and pointed out that wheel and rail wear appear to depend on the product of angle of attack and flange force. This means that wear can be dramatically reduced by bringing the angle of attack down near zero, even though there is still a substantial force remaining. It should also be noted that reducing the angle of attack to near zero (radial axles) will greatly reduce dynamic loads in curves. A wheelset running in the radial position will miss many curvature irregularities. A wheelset running with a substantial angle of attack will hit them all.

In designing the DR-1, we have made an all-out effort to make the cure much more enjoyable than the disease. For example, we have retained all the proven parts and desirable features of the present truck, and we have kept the new parts to the minimum required. Furthermore, we have taken steps to eliminate the metal-to-metal wear points wherever possible, and reduce the amount of motion at the ones remaining. Wear between the bearing adapter and the side frame has been eliminated by the use of an elastomeric pad. The yaw motion between the bolster and side frame has been eliminated for reduced bolster and gib wear. By eliminating truck hunting, we minimize wear at the center plate. And by making the DR-1 a retrofit kit, we have endeavored to make the improved performance available at a reasonable cost.

H.A. List
Railway Engineering Associates, Inc.

Light rail, heavy costs

Pottstown, Pa.

To the Editor:

I read with considerable dismay your Sept. 11 article on light rail transit ("Light Rail: As interest rises, so do costs"). It demonstrates that once again we are pursuing programs so ambitious that they threaten to destroy long range development of a particular transportation mode.

It happened with so-called heavy rail transit (will we see any more totally new starts?), and it is happening now with light rail transit.

Buffalo's current estimated cost is $440 million for 6.4 miles. That averages $68.8 million per mile, which General Manager Knight indicates is more expensive than Miami's planned heavy rail line. Even if the system meets every expectation, how can that kind of price tag appeal to decision-makers in other cities?

Are such costs inevitable? Edmonton proves they are not. The 4.5-mile light rail transit line in that city was completed for $65 million or $14.4 million per mile—one-fifth the cost of Buffalo. Moreover, Edmonton is far more in line with world wide light rail development costs than Buffalo.

There can be all kinds of reasons why Edmonton has been relatively low cost and Buffalo expensive. The point is that when overall characteristics and costs reach the level of Buffalo, the system should no longer be labeled "light rail transit."

Stewart F. Taylor
Vice President, Transportation
Sanders & Thomas

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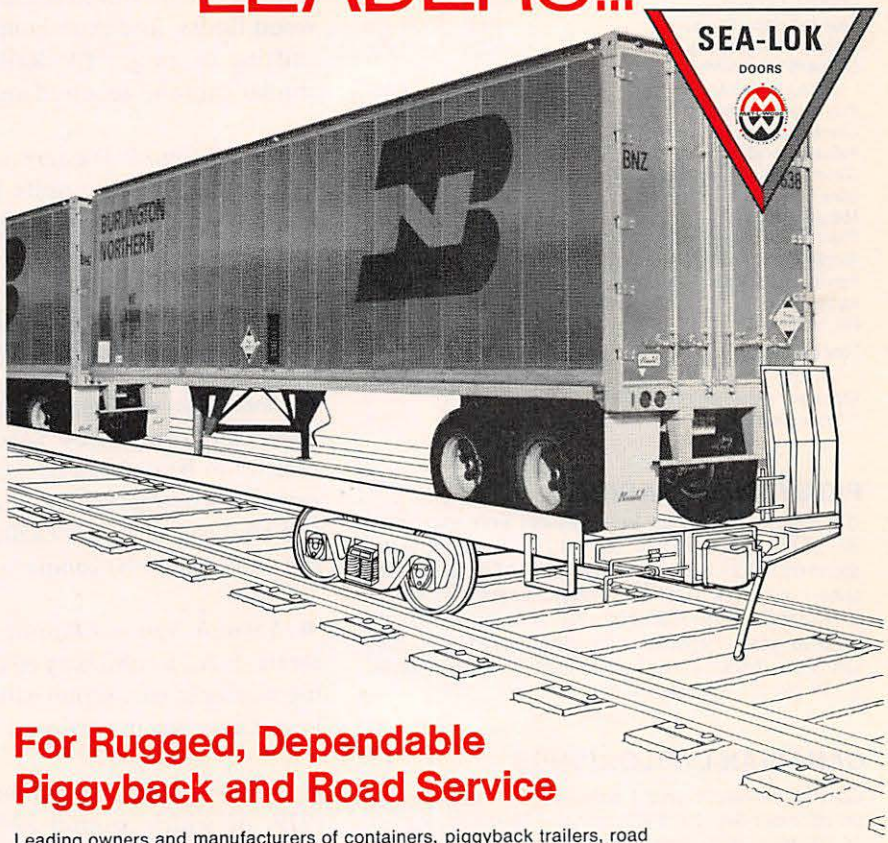

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Market

CARLOADINGS

Loadings of revenue freight in the week ended Jan. 6 totaled 338,519 cars, according to the Association of American Railroads. This was an increase of 17,858 cars, or 5.6%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Jan. 6 are estimated at 12.7 billion, an increase of 7.0% above the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Jan 6 week	Dec. 30 week
Grain	19,354	20,172
Farm products	3,925	3,887
Metallic ores	23,513	27,324
Coal	70,421	75,325
Crushed stone, gravel & sand	9,726	10,410
Nonmetallic minerals	12,296	11,924
Grain mill products	15,142	14,730
Food and kindred products	14,432	14,311
Primary forest products	14,756	12,201
Lumber & wood products (except furniture)	8,207	8,064
Pulp, paper & allied products	16,978	13,106
Chemical & allied products	23,868	24,245
Petroleum products	6,127	5,817
Stone, clay & glass products	13,136	14,299
Coke	7,088	7,525
Metal & products	16,877	16,483
Motor vehicles & equipment	15,405	10,384
Waste & scrap materials	9,437	9,381
Forwarder & shipper assn. traffic	7,356	8,334
All other carloads	30,214	30,193
LCL traffic	261	300
Total cars loaded	**338,519**	**338,415**
	1979	1978
Estimated revenue ton-miles (billions) Week ended Jan. 6	12.7	11.9

PIGGYBACK LOADINGS

U.S. piggyback loadings for the holiday week ended Dec. 30, 1978, totaled 26,686 cars (0.2% above the corresponding holiday week of 1977) and 45,107 trailers or containers (up 1.3% from 1977). Piggyback traffic on Class I U.S. roads in 1978 established a record for the second consecutive year. Piggyback carloadings totaled 1,840,588 (up 9.0% from 1977). Trailers and containers reached 3,177,291 (11.5% over 1977).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Dec. 21, 1978, totaled 4.95 million tons (up 14.7% from 1977). Cars loaded totaled 74,978 (up 9.8% from 1977). Cumulative loadings for 1978 were 236.6 million tons (down 3.4% from 1977).

● *Ann Arbor.*—Has acquired 20 new auto-parts boxcars valued at $1.3 million under a 15-year lease with BRAE. The cars, which will be assigned to the Ford Motor Co.'s plant at Saline, Mich., represent the first new rolling stock to be placed in service on the Ann Arbor since 1964.

● *CN Rail.*—Has budgeted $325 million for capital improvements in 1979. CN Rail notes that "most will be spent on basic replacement priorities in western Canada where the majority of traffic growth is expected. A large portion of this growth relates to an agreement between Ontario Hydro and CN to move large amounts of Alberta coal to eastern Canada." About $58 million will be spent on equipment replacement in 1979. The railroad says that, while significant improvements in utilization have permitted large savings in expenditures during the last three years, an estimated $680 million will be required for equipment purchases between now and 1983.

● *CP Rail.*—Placed a $4.7-million order with National Steel Car Corp. for 100 70-ton, 50-ft cars specially designed for hauling newsprint. The cars will have cushioned underframes, 9-ft plug doors, hardwood floors, and extra lading strap anchors in each corner to minimize shifting of cargo. CP Rail took delivery in September 1977 of 100 similar cars and acquired another 20 in December 1978.

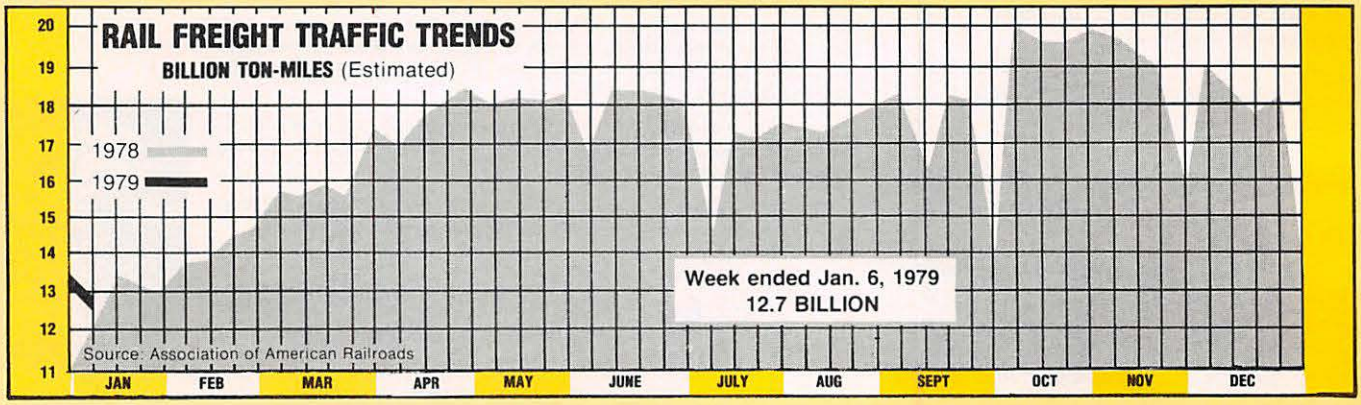
● *Grand Trunk Western.*—Took delivery on Jan. 3 of 20 2,000-hp GP-38 diesel-electric units built by Electro-Motive and valued at $10 million—the largest single delivery of new locomotives in the railroad's history.

● *PLM.*—Will acquire more than 2,000 100-ton, 4,750-cu-ft-capacity covered hoppers in 1979, compared with 800 in 1978.

● *Southeastern Pennsylvania Transportation Authority.*—Nissho-Iwai American Corp. of New York is the apparent low bidder for new light rail vehicles to be ordered by SEPTA early in 1979. Kawasaki would be the prime subcontractor. The Nissho-Iwai bid was for 141 nonarticulated cars at a total cost of $57,739,150. The first car would be received in 1981, and the order would be completed in 1982.

● *Spanish National Railways.*—Awarded a contract to Dames & Moore Iberia, S.A., a subsidiary of Dames & Moore of Los Angeles, for engineering studies in connection with the proposed conversion of the single-track Leon-Gijon line in northwest Spain to a double-track, high-speed railway.

● *Union Pacific Corp*—Plans record capital outlays of $722 million in 1979, of which around 39%, or $281.6 million, will go for Union Pacific Railroad improvements. UP earlier announced a $196.9-million railroad equipment program for 1979 (RA, Dec. 11, 1978, p. 4).



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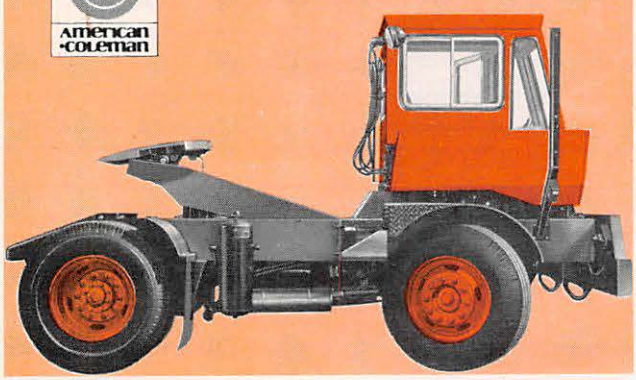

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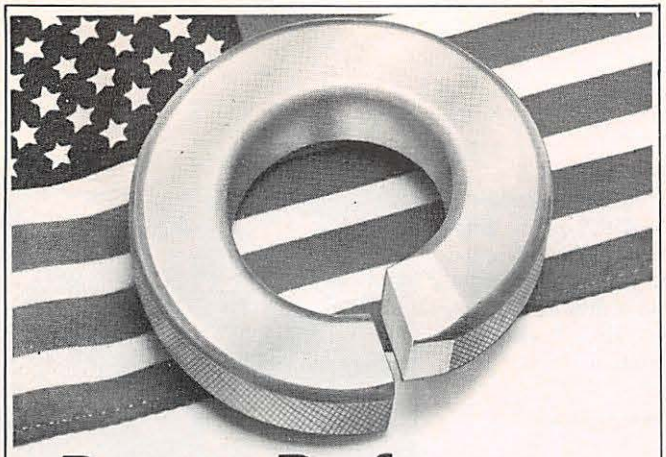

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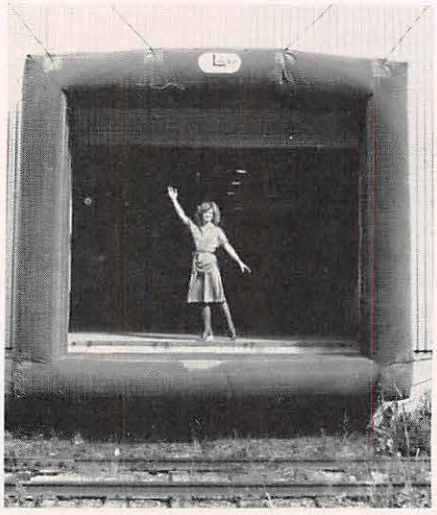
Advertiser's Index

Abex Corporation 52-53
ACF Industries, Inc., AMCAR—Special Products ... 78
Aeroquip Corp., Gustin-Bacon Div. 47
Amerace Corp., ESNA Div. 90
American-Coleman Company 98
American Steel Foundries, Div. Amsted Industries . 8-9
Ashland Oil Inc. 56-57
Bartlett Lifting Devices, Inc. 92
Berwick Forge & Fabricating Corp. 69
Bombardier, Inc., Energy & Transportation Group... 83
Brainard Rivet Company 91
Brownie Manufacturing Co., Inc. 94
Buffalo Brake Beam 93
Burlington Northern 28
Cardwell Westinghouse ..... BC
Denver & Rio Grande Western RR 54
Difco, Inc. 84A
Ellcon National, Inc. 87
Empak, Inc. 85
FMC Marine & Rail Equipment Div., Gunderson, Inc. . 55
Freightmaster, Div. Halliburton Co. 5
GATX Transportation Corp. 58-59
General Battery Corporation 91
General Electric Credit Corp. 6
General Motors Corp. 27
Greenville Steel Car Company 37
Griffin Wheel Co., Div. Amsted Industries 65
Hennessy Products, Inc. 48
Hoesch America, Inc. 15
Holland Company, Freight Equipment Div. 32-33
Itel Corp., Rail Division 81
Keystone Railway Equipment Co. 13
Met-L-Wood Corporation 95
Microphor 90
Midland Insurance Company 84
Miner Enterprises, Inc. 76
Missouri-Kansas-Texas Railroad Co. 86
Napier Turbochargers Ltd. 20B
National Castings, Div. Midland-Ross Corp. 51
National Lock Washer 99
National Railway Utilization 16-17
North American Car ..... I.F.C.
Oil Recovery Systems 94
Ortner Freight Car Co. 46
Paladin Corporation 82
Pittsburgh Forgings Company 18
PLM, Inc. 21
Portec, Inc. Railway Products Div. 11
Rails Company, The 92
RMC Division, Portec, Inc. 91
Santa Fe Industries, Inc. 40-41
Schaefer Equipment 20A
Southern Pacific Company 84B
Standard Car Truck Co. 73
Standard Steel, Div. Titanium Corp. of America .. I.B.C.
Stanray, Div. Abex Corporation 67
Stucki Company, A. 74
Sumitomo Metal Industries, Ltd. 45
Templeton, Kenly & Co. 19
Timken Company 88-89
Townsend Fastening Systems, Div. Textron, Inc. ... 71
Union Pacific Railroad 20
Vapor Corporation, Transportation Systems Div. ... 31
Virginia Suppliers, Inc. 94
WABCO—Union Switch & Signal Div. 38-39
WABCO—Westinghouse Air Brake 22-23
Western-Cullen-Hayes, Inc. 92

Products Report



Loading dock seal lightened for easier installation, use

Internal sections of the rs² rail seal offered by AirLocke Dock Seal for rail dock openings eases installation and operation by reducing its weight. The square-cornered, inflatable rs² permits full access to a 10-foot wide dock opening, and features an insulated passageway, quick air inflation, a tight seal, and a switch-operated 1/6-hp blower, plus hardware for mounting inside or outside the building.

Circle 60 on reader service card

Two telescoping lifts cut maintenance costs

To reduce the cost of maintenance projects in high, hard-to-reach places, Ballymore Co. offers two new telescoping-type lifts: the EMP-15 with maximum platform height of 15 feet 2 inches and the EMP-20, 19 feet 6 inches. Both have lifting and holding capacities of 500 pounds and are constructed to meet or exceed manufacturing and safety standards established by ANSI A92.3-1973. Lift decks are 5-feet square; covered with anti-skid mat; and guarded with 42-inch-high top rails, midrails, and a mid-level snap chain on the entry side. Toeboards around the decks contain tools, etc. Storage height is 80 inches.

Circle 61 on reader service card

Graphite mixture lubricates hopper car gates

A graphite formulation used to lubricate railroad switch plates is now being used to keep outlet gates on the botttom of hopper cars from binding. Slip-Plate, a liquid resin-based graphite formulation that can be sprayed or brushed onto friction surfaces, is made by Superior Graphite Co. Creco Division of Evans Products, Inc., now applies the lubricant to its hopper car gates, where it dries quickly; withstands extreme weather conditions, dust, and dirt; and, besides lubricating the gates, prevents dust, dirt, and other foreign material from collecting in the gate track where they could eventually make the gate hard to operate.

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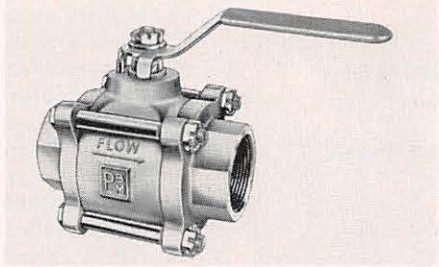


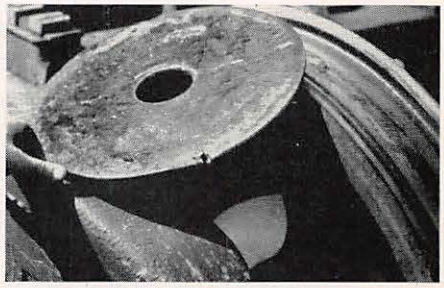
Tank car ball valves stay leak-tight under vibration

New tank car ball valves offered by Pittsburgh Brass Mfg. Co. are said to insure leak-tight operation on all types of equipment subject to severe vibration conditions. Tested and approved by the AAR, the valves have heavy pattern carbon-steel bodies, stainless-steel trim, special body bolts secured by castellated nuts with cotter pins, full ports for unrestricted flow, fire-safe seat assemblies, highly polished stainless-steel balls, glass-filled TFE seats and seals and female IPS end fittings. Available in 1- and 2-inch sizes.

Circle 63 on reader service card

Plastic liner cuts wear on center plate, bolster bowl

A plastic center plate liner that provides abrasion resistance between freight-car bolster bowls and center plates is now offered by Dayco Corp. The liners combine Duraguard, a tough thermoplastic material said to provide four times the wear resistance of stainless steel, with perforated steel. Tested on an iron pellet car that was loaded at a temperature of about 800 degrees F., the liner showed minimal change in appearance and measurement after four years and 200,000 miles, including exposure to corrosive acids and abrasive dust; the center plate and bolster bowl had no signs of wear, even though no lubrication had ever been used. Available in diameters to fit all bolster bowls.



Circle 64 on Reader Service Card

NEW LITERATURE

METAL GRATING. A 24-page catalog offered by United McGill Corp. covers its United Interlock Grating, Metalplank Scaffolding, rack shelving, staging platforms, and stair treads of galvanized steel grating with slotted-grip or anti-skid surface.

Circle 70 on Reader Service Card

MICROWAVE RADIO. GTE Lenkurt offers a four-page brochure describing its 79F1-D 2-GHz Digital Microwave Radio System for extending T1-type routes over problem areas such as mountains, valleys, lakes, and swamps; for providing special services; and for emergency restoration.

Circle 71 on Reader Service Card

TRAINING FILM. Causes and results of super light brake pipe reduction is the subject of a nine-minute, 16-mm sound and color training film, produced for the Railway Fuel and Operating Officers Association, utilizing FreightMaster's Train Dynamics Analyzer equipment to examine an undesired brake release. Details and price available from FreightMaster.

Circle 72 on Reader Service Card

YARD LIGHTING. A four-page brochure offered by Westinghouse Electric Corp.'s lighting division describes Dayliter II, a new floodlighting luminaire suitable for railroads yards.

Circle 73 on Reader Service Card

TOOL CABINETS. A 28-page catalog offered by Deluxe-Lista Corp. covers its complete line of steel cabinets, drawers, partitions, dividers, and accessories.

Circle 74 on Reader Service Card

QUALITY

NOW! FROM BOTTOM-POURED STEEL

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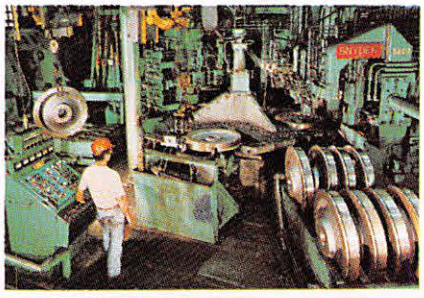
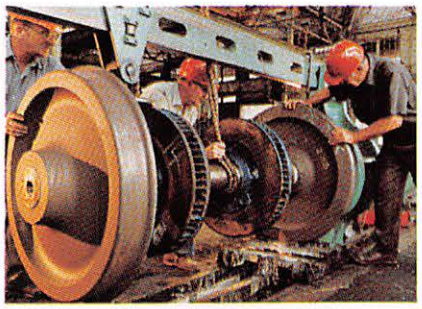
From years of experience, and special knowledge from capable people spending their lives in production and technology.



SPECIAL & DIESEL WHEELS are bored, faced and turned on Snyder mill.



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DIVISION OF TITANIUM METALS CORPORATION OF AMERICA

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"We get a good product and good service from Cardwell Westinghouse. They're the only draft gear supplier we use."

—Joseph Amend, Supervisor—Fuel Transportation, Pennsylvania Power & Light Company

In 1964, the Pennsylvania Power & Light Company started hauling coal to their power generating plant in a modest 74-car unit train. Today, PP&L has almost 1000 cars that haul over 7 million tons of coal a year.

"We used a different draft gear at first, but then switched to Cardwell Westinghouse," recalls Joseph Amend. "It was a smart move... their product and service have been outstanding. Those first Cardwell draft gears have logged more than 35 million miles.

"That kind of durability is important to us," Amend explains, "because our cars operate on subpar track in the mine area and secondary track for almost the entire route."

Proven performance on tough jobs is what keeps PP&L sold on Cardwell Westinghouse.

Put a leader to work for you.
We're confident we can sell you, too. Because we were the first to meet AAR M901-E specifications, and more than 750,000 Cardwell Westinghouse units built to those specifications are in operation today.

And we'll put your draft gears back in like-new shape once they finally do wear down. At a cost that won't wear out your budget.

We're ready to help.
For more information on our entire line of draft gears call your local Cardwell Westinghouse representative. Or contact Cardwell Westinghouse, 332 South Michigan Avenue, Chicago, IL 60604, (312) 427-5051.

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